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The auxiliary schooner *Haida* leaving the ice packed slip at Camden at the start of her long voyage.

The Log of the *Haida*

On a Winter Voyage From the Atlantic to the Pacific

By ERNEST A. RATSEY

In setting down this account of what proved to be a remarkable voyage for a small yacht it is felt that it is best to let the log kept by the author on the voyage tell the story, for it is the daily incidents and happenings aboard ship on a long passage, and the intimate details jotted down as they occur, that are of the most interest to sailormen. And though a log, by its repetition of speed, daily position, comment on the weather, etc., may seem to some not the most interesting way to tell a story, it is just these items that the real sailor most wants to know, and that give him the best picture of the voyage.

In reading the account that follows, one wants to bear in mind that the little vessel was of only 37 tons register, and, therefore, that the run of 10 days 9 hours from Philadelphia to the Panama Canal (almost steamer time) is especially remarkable, and that daily runs of 200 to 220 miles, through rough, confused seas, show that the little vessel was driven. Also, it shows that the auxiliary is the only type of small vessel for going off shore. —Editor.

BEFORE starting on her long voyage from the Atlantic to Santa Barbara, the *Haida* was thoroughly overhauled in a most efficient manner at the Mathis Yacht Yard, Camden, N. J., under the supervision of Capt. Rodstrom, her skipper. The *Haida* was formerly the schooner *Elise,* and she had recently been purchased by Maj. Max Fleischmann. She was designed by Bowes and Mower, is 66 feet long on the water, 88 feet over all and 20′ 5″ beam. Originally a centerboarder drawing 7 feet, the board was removed and a keel added so that she drew 10′ 3″ when ready for the voyage. She was rigged as a three-masted "bald-headed" schooner. Her auxiliary power consisted of a 70-90 H. P., 6-cylinder Standard engine.

Our crew on the voyage consisted of Capt. Charles Rodstrom, who is the skipper of the big schooner *Sonnica;* a mate, Arthur Tolles, the engineer, F. S. McLachlan, who look after the big Standard engine; three seamen, T. Gunderson (who was mate of the *Sonnica*), A. Berg, and B. Moberg, and a steward, E. F. Munns, who was always on the job. Let me say right here it was a fine crew. Capt. Rodstrom did not let any grass grow on the bottom and drove the little ship for all she would stand. His only regret was that the *Haida* was a wooden vessel and that he sometimes had to ease up on her more than if she had been built of steel.

Philadelphia to Colon

We left Mathis Yacht Building Co.'s yard on our long voyage at 10 A. M. on Friday (showing that we were not superstitious), January 27th, all prepared to be towed straight down to the breakwater at the end of the Delaware and out to sea. We were pretty well loaded down with stores, fuel, supplies, etc., and on deck we had two launches and a dinghy (the latter full of fresh water) lashed in chocks, two 50-gallon casks of fresh water and 300 gallons of gasoline in cases—quite a deck load for the little ship. We reckoned that with that 300 gallons of fuel and the 1,100 gallons in our tanks below we would have sufficient to drive the *Haida* about 1,600 miles under power.

Before leaving we secured a

wooden ice sheathing firmly to the ship to prevent the planking being cut by the ice running in the river. This proved most effective. It consisted of boards nailed together to fit the waterline, held in place with lines under the boat's bottom and with ropes attached to the rail. The forward ends were fastened with wire ropes rove through the hawse pipes and crossing the stem.

The ice in the river ran pretty thick and it was not until we arrived as far as Eddystone that we could find a clear spot in which to adjust the compass. We were forced to use the Eddystone range to begin this job, owing to the clouds; but finally the sun came out just long enough for us to complete adjusting by azimuths.

Below Chester the ice became very heavy indeed and at half past five the ice sheathing on the port side about half way along carried away. This delayed us for an hour and a half, as we had to get the tug alongside, haul the sheathing up on to her rail and repair it. The temperature was below freezing all the time but there was no wind. Later in the evening the ice became so thick that in many places the tug got stuck and we would fetch up alongside her. The sky was getting more overcast every moment and looked threatening, while there was a light N. E. wind blowing and it felt like snow.

At 1 o'clock on Saturday morning we were clear of the ice at last and signalled to the tug to stop while we let go our ice sheathing. The wind had increased and snow was beginning to fall. We passed Crossledge at 2:15 A. M. with a strong breeze blowing and snow increasing. Fifteen minutes later the tug captain refused to go any further owing to the heavy snow, so we turned about and proceeded up the river and anchored at 6:15 A. M. on the line of red sector 1½ miles to the south'ard of Ship John Shoal Light. The wind was increasing to a gale and it was snowing heavily with the barometer at 29:70 and still falling.

Here we lay till 12:45, when the anchor began to drag, so with the aid of a kettle of hot water to thaw out the windlass, and some salt to let us get a grip on the deck, we weighed anchor and started up the river again under our own power to find a better anchorage.

We found that we were unable to make much headway against the gale and ice, so signalled to the tug to give us a line and tow us up to Arnold Point. We arrived there at 3:30 P. M. with a fierce snow storm raging and the ship badly iced up. Captain Rodstrom tried to persuade the tug to tow us in further under the lee of the land, but not being used to small boats he let us go broad in the channel, between Arnold Point Shoal and Bombay Hook.

Here we had to stay, so let go both anchors and all our chain and lay there, rolling and pitching hard, till 9:30 the following morning. We sent the tug back with instructions to come out and find us next day and see whether we needed him or not.

The turn in the weather we had been waiting for came at 8 o'clock the next morning, Sunday, January 29th, the snow and wind moderating a trifle at that time. We cleared the snow and ice off the deck and rigging, filled up our water tanks with water from the dinghy, hauled down two reefs in the mainsail and then started to heave up the anchors. An hour and a half elapsed before we had them up and catted, as they were badly fouled, owing to the fact that the ship had swung around four times during the night. We then set the double-reefed mainsail and forestaysail, put two reefs in the foresail and set that, started the engine and proceeded down the river under power and sail, making fine time. The tug then reported but not wanting her we dismissed her.

At 10:50 we were abreast of Ship John Light with the wind moderating, so we shut down the motor and set full mainsail, foresail, jib and single reefed spanker. We took our departure from Overfalls Lightship at 3 P. M., passing same to port, close aboard. Ship heading S.S.E. and speed varying from 9 to 11 knots. An hour and a half later the wind freshened again so we stowed the jib and spanker.

As may be readily imagined there was a very heavy sea running after the N.E. gale and, what with our deck load and gas tanks aft full up, we were trimmed by the stern a trifle. This could not be helped and the *Haida* behaved remarkably well, though at times she would ship a sea over her weather quarter. We passed Fenwick Island Light to Port at 5:15 P. M. and changed course to S. ½ E. After that we continued running before a northerly gale with a heavy following sea, throughout the night and next day.

We entered the Gulf Stream at 10 o'clock the next morning, Monday, after which the seas became shorter, heavier, and more vicious, but the air and water got noticeably warmer as we progressed. At 10:30 A. M. we shipped a heavy sea forward that split the forecastle companionway hatch and pulled the lashing bolts of the starboard launch out of the deck and split the after launch chock. The captain called the watch below, secured the launch and made temporary repairs to the hatch.

During the morning we sighted a three-masted barge adrift and apparently abandoned; also a Clyde Liner making heavy weather of it. Overcast and no observations. Distance made to noon 184 miles (in 21 hours) on a S. 10° E. course. Lat. 35° 46′ 21″ N. Long. 74° 22′ 09″ W.

By 2 P. M. the wind had moderated and we set the jib. By 11 that night we had run out of the Gulf Stream and at midnight we set the spanker, single reefed.

January 31st came in with a moderate to fresh N.E. by E. wind blowing and half clear. The sea was moderating but it was still running very high. We were making excellent speed, however, and the distance made to noon was 210 miles on a S. 6° E. course. Lat. 32° 17′ 34″ N. Long. 73° 55′ 45″ W.

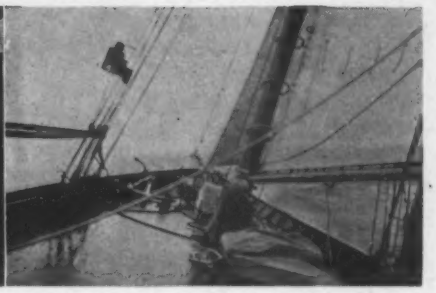
We shook out the reef in the spanker soon after noon and Capt. Rodstrom drove her all she would stand. The following day was clear with a moderate E.N.E. wind blowing and still some sea running. We filled up the gasoline tanks from the cases on deck to replace what we had used, installed ventilators and dried out our clothes and bedding, which were more or less wet—mostly more. Distance made at noon 212 miles on a S. 4° E. course. Lat. 28° 46′ N. Long. 73° 38′ 30″ W. This showed us we had made 606 miles from Overfalls Lightship in two days and 21 hours—not bad in the sea that was running.

The wind freshened towards nightfall and we single reefed the spanker. By Thursday morning the wind had shifted to E.S.E. so we started the motor at 8 A. M. and at 11 A. M. we shook the reef out of the spanker again. We had bright sunlight all day and we were gradually running out of the sea left by the gale. Distance made at noon 166½ miles on a S. 8° W. course. Lat. 26° 00′ 57″ N. Long. 74° 04′ 15″ W.

At 10:30 A. M., February 2nd, Captain Rodstrom sighted Cat Island from the masthead, broad off on our starboard beam. Distance made at noon 116 miles on a S. 21°

Iced up in the Delaware.

Gunderson finds a snug spot on deck.



Driving off under foresail and staysail.

W. course. Lat. 24° 12′ 57″ N. Long. 74° 50′ W. As the wind was light and still well ahead, the motor had been going since 4:30 A. M.

At 2:40 P. M. we were only 8 miles from Watling Island Light, at the entrance to Crooked Island Passage, which was bearing E. by S. It was a beautiful sunny afternoon and we proceeded under power along the lee shore of the Island in smooth water. The colorings were extremely vivid, the sea was bright blue to within a mile or so of the shore when the coral and sand in the shallower water turned it to a bright greenish blue. As a fitting background there was the white sand, dark green foliage on the island and the clear light blue sky beyond.

The following morning (7 A. M.) found us 2 miles from Bird Island Light, bearing E. by N. and by 9 o'clock we had the S.W. point of Fortune Island abeam. The wind was light and patchy during the morning so the chief went below and started the engine and we used our power to push us through the belts of calm into the breeze. This day's run was not so good and the distance made to noon was 118 miles on a S 12° E course. The wind was still E.S.E.

We passed Castle Island Light at 1:40 P. M., close aboard. An hour later the wind freshened again to a fine sailing breeze from the East, with passing trade showers. By midnight we were shipping water over the bow, driving hard to weather Cape Maysi, which was to leeward of us as the wind was blowing. We passed it at 6 A. M. on Sunday, 14 miles away and bearing West.

Then the wind kept lightening all the morning and by 11 o'clock there was a dead calm, with a short cross sea running and we were under power till 10:10 P. M., when Nevassa Light was bearing E.S.E. and 5 miles distant. The engine shoved us along at from 7½ to 8 knots in spite of the sea. Distance made at noon, 160 miles on a S. ½° W. course. Lat. 19° 37′ 27″ N. Long. 74° 22′ 36″ W.

As soon as we had Nevassa Light abeam the trade wind struck in, E.S.E., and increased, so that at 1 o'clock Monday morning we had to reef the spanker. It kept on breezing and at 10 A. M. we parted our staysail halyard strop, but soon had a new one up in its place. We logged ten knots a good part of the forenoon and our noon position, Lat. 16° 52′ 14″ N., Long. 76° 18′ 12″ W., showed that we had made good in the 24 hours 199 miles on a S. 34° W. course.

The trades held strong for the rest of the way to Colon and the Caribbean Sea did its very best to imitate the sea we had come through in the Atlantic—and succeeded fairly well. We averaged 203 miles a day during this part of the run, frequently attaining a speed of 11 knots.

Wednesday morning the weather was only half clear and in the afternoon the visibility was bad, owing to trade squalls. Our observation that day put us in Lat. 10° 38′ 06″ N., Long. 78° 56′ 15″ W. Distance made at noon 205 miles on a S. 13° W. course. We were then only 105 miles from Colon and at 7:45 P. M. we had Grande Island Light bearing S.E., at a distance of 10 miles, and at 10:15 we sighted Toro Point Light half a point on our lee bow.

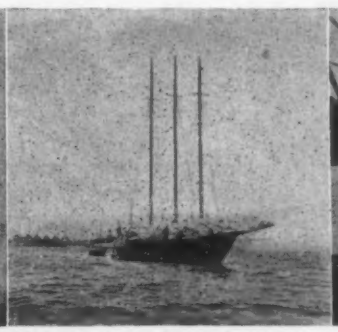
We passed through the breakwater at Colon at midnight, just 10 days, 9 hours from Overfalls, and at 1 o'clock had all sails stowed and were anchored off the coal pier at Cristobal. It was, we thought, a record run for so small a ship, and perhaps a record for a sailing vessel of any kind. Distance from Overfalls, L. S., by log 1,836.7 miles, by observation 1,774.5 miles. We had to use our engine only 49 hours on this leg of the voyage.

Quarantine and Custom House officers came aboard at 8:40 the next morning and by 9:30 we were admitted to pratique. Pilot reported at 11 A. M. and had us towed alongside the wharf at the Cristobal shops for painting and a few minor repairs. The captain found the facilities of the Cristobal shops decidedly better for doing yacht work than at Balboa, there being far less "red tape" there. We cannot speak too highly of the courtesy extended to us by everyone while we were in the Canal Zone.

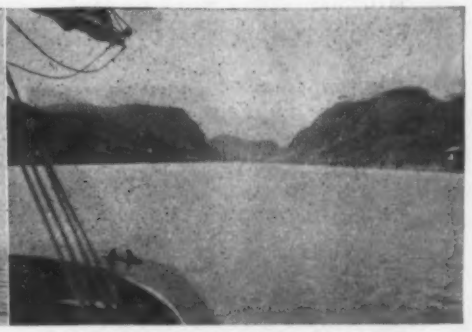
Colon to San Diego

We remained tied up alongside the wharf at the Cristobal shops until Monday morning, Feb. 13th.

Capt. Rodstrom shoots the sun. Engineer Mac Lachlan alongside.



The *Haida* in San Diego Harbor at the end of her long voyage.



Leaving Culebra Cut in the Panama Canal.

The three working days were spent in overhauling and making minor repairs. We also installed a new main boom as we found that the old one was too light to be used without preventers. We took on board fresh provisions and 1,000 gallons of gasoline in cases for the long run of 3,800 miles to San Diego, and on Monday morning, 1,500 gallons of water and 1,500 lbs. of ice.

When the pilot reported at 10:50 we were all ready and proceeded under power towards Gatun locks, entering the lower lock at 11:55 in company with the Chilean ship *Mantaro* (about 7,000 tons) and the small steam yacht *Gold Star*. The *Gold Star* belonged to the Panama Canal and is one of the 110-foot steam yachts built by the Herreshoff Mfg. Company at the commencement of the war and turned over to the U. S. Navy.

We were clear of Gatun's last lock by 12:50 and set our forestaysail and foresail to help us through the lake, but stowed them later just before reaching Culebra. If we had not been held up for 15 minutes by the signal at Gamboa on account of the approach of a north bound vessel we would have caught up and locked down with the *Mantaro*. As it was, we cleared Pedro Miguel at 4:45 and were kept waiting for 10 minutes in Milaflores Lake while the *Mantaro* was locked through.

By 5:50 we made fast to the wharf at Balboa, having taken only 7 hours to pass through the Canal under our own power. The Canal tolls were only $82, including pilotage. The following morning the pilot came aboard at 11 o'clock, just as we had finished stowing fresh ice and had secured our clearance, and, starting our engine, we proceeded out into the Pacific under power. Thirty minutes later the pilot left us and we were off on our long voyage. We set all sails, for there was a light N.E. wind blowing and we were clear of the sea buoy at 11:50. Something over two hours later we passed Bona Light and shut down the motor, as a moderate breeze had sprung up.

Soon after midnight we passed Cape Mala, hugging the shore with a fresh N.W. wind blowing off the land. The Cape bore N.N.W., 4 miles distant. An hour later the wind became very light and we started up the engine. This was a great help in keeping us going in calms and light weather, of which we had a good deal at this stage of our voyage. At noon we had Mariata Point, bearing E. ¾ N., 29 miles distant. During the last 24 hours we had made 136 miles on a S. 52° W. course. Noon Lat. 7° 10′ 15″ N., Long. 81° 21′ 30″ W.

At 4 P. M. we were passing between Coiba and Jicaron Islands, and at 8 P. M. saw our last bit of land for the next few days in the shape of Montuosa, 4 miles away, bearing N. ½ W. There was practically no wind at all during the next day, so we continued to run the engine and made 172 miles to noon on a N. 80° W. course.

Just before breakfast the next morning we were called on deck in a hurry to see a water spout about 3 miles to the S. W. There were heavy clouds around and fifteen minutes later we ran into a heavy rain squall. This was the precurser of the trades, for after that the trade wind set in from the N., but although there was a short choppy sea running the wind was light. We set the mizzen staysail which, besides helping the ship along, steadied her considerably.

By noon we had made 129 miles more, on a N. 76° W. course. During the afternoon the wind freshened and at 1 A. M. that night we had to stow the mizzen staysail and 3 hours later were roused out again to reef the spanker. We were shipping some water over the bow and a good breeze was blowing on our starboard bow. We were making great time, however, logging ten knots or better, "full and by," and the distance made to noon was 220 miles on a N. 77° W. course. This was one of our best runs.

By 5 that afternoon the breeze had moderated somewhat but there was still some sea running, so we set the full spanker and mizzen staysail again. Capt. Rodstrom wasn't going to let up on her. At 11:30 P. M. we started up the engine and ran it until 2 A. M. Sunday, the 19th, when the wind increased to a fair sailing breeze again. At 9:30 A. M. we stowed the forestaysail and jib and set the balloon jib, which added at least one knot to our speed. Distance made at noon, 185 miles on a N. 69° W. course. We were making good a course only a little North of West, so we were raising our latitude slowly.

The following three days were all much alike,—strong sunlight, smooth sea and a light breeze, which died down at intervals, and we found, once again, that to have power in a sailing vessel is a very handy asset on a long voyage. Our daily runs to noon for the three days were as follows: 192.5 miles, 167 miles and 169 miles. These good runs would have been impossible without the engine. We kept our ballooners set all the time, except early on Wednesday morning, during a calm, when the sails were slatting and we lowered the mizzen staysail for an hour to prevent the main gaff from tearing it.

The wind increased the next afternoon and evening, and at 10 P. M. it was blowing fresh N. by W., which kicked up quite a high, cross sea, so we stowed our balloon jib and mizzen staysail. These two sails had done remarkably good work and helped us along considerably, the former having been set for 100 hours at one stretch.

During the next two days the wind still held further to the North than we liked, but it remained steady and gave the seas a chance to straighten out a trifle. We had good daily runs, making 191 miles Feb. 24th, and 184 miles the 25th. By noon the 26th, we had made 202 miles on a N. 76° W. course and were in Lat. 15° 11′ 41″ N., Long. 113° 49′ 03″ W. Toward evening the wind increased and we single reefed the spanker, but shook it out again the folowing morning. The temperature at this point began to drop, and although only a few degrees each day, we started to hunt up some of our thicker clothes. We almost had another 200-mile day, for at noon the 27th our observation showed 199 miles made good, on a N. 69° W. course.

We sailed "full and by" all afternoon and the whole of the following day, jumping into the seas in great style. It was pretty rough on the cook and was the first time since leaving Camden that we had had a heavy head sea. The sea killed our speed somewhat as we made only 181 miles during the 24 hours. That afternoon we struck some rain squalls and heavy puffs of wind. The sea was still running high, so we single-reefed the spanker at 7 P. M. and two hours later the mainsail also, after which she handled better. Around midnight we were crossing over Allaire bank and although there is about 70 fathoms of water over it, it was probably the cause of some of the cross sea.

After daylight the following morning we set full spanker and mainsail. All through the day we had a stiff wind with heavy rollers from the N. W. and we could not drive the boat. The seas were very long from crest to crest, and in the throat of each there was a smaller sea (and in some cases there were two of them), and these bothered us and stopped our headway far

Smashing into a head sea.

There was not much room to move about on deck.

The author taking his trick at the wheel.

Haida entering first lock at Gatun.

more than the big ones did.

By 4 P. M. the wind had freshened and we reefed the spanker and mainsail again until 6:40 the following morning, when we shook them out, for the wind had moderated and the sea quietened down a trifle. After this the wind was variable and shifted the next day from N. to N.E. by N. and at 8 A. M. we tacked ship to port. But after 20 minutes we had to tack back again to starboard as the short steep sea retarded our speed on the port tack. By noon we had made 168 miles on a N. 36° W. course and were making more northerly. We had been out 17 days and were in Lat. 25° 32′ N., Long. 124″ 08′ W.

During the night a fresh N. by E. breeze sprung up with passing rain squalls and at 4 A. M. we had to reef the spanker, and at 8 A. M. followed by reefing the mainsail. We tried tacking ship but the wind headed us off gradually and at 12:30 we were making no better than E. ½ N., so were forced to our old off-shore tack once more. On account of the head wind we only made 118 miles to noon on that day. During the last two days we had not decreased our distance to San Diego appreciably, "as the crow flies," but had to keep on plugging N. in order to get clear of the N. E. trade wind. Before midnight that day the trade wind had died out but had still left some sea running. We tacked ship to port and shook out the reef in the mainsail and started up the engine, which we ran till 5 A. M. Sunday, when the wind struck in N.N.W. and freshened, kicking up the sea once more so that we single-reefed the mainsail and by noon had made only 79 miles on a N. 20° E. course.

At 3 P. M. the sky looked threatening and dirty so we prepared for a squall by taking in the jib. At 6 P. M. we got it, and it blew half a gale and kicked up a high sea which increased all the time until, at 4 A. M., it was so heavy we had to double-reef the spanker to ease her. We continued all day under forestaysail, foresail, reefed mainsail and double reefed spanker and were obliged to sail her easy to prevent shipping too much water. There was a high, confused sea which didn't improve matters much. Distance made at noon only 128.5 miles on a N. 76° E. course. We were working in toward the coast and our destination, however. The barometer was high and stood steady at 30.40. The sun broke through the clouds at intervals during the afternoon but the sky was still very dark and ugly looking. The barometer then fell gradually but the wind moderated sufficiently for us to set full mainsail and jib at 4 o'clock the next morning. At noon we had made 132 miles—not bad, considering the conditions.

The sky clouded toward midday and in the afternoon, as the barometer was still falling, we prepared for a blow by single-reefing the mainsail and stowing the jib. As we were called to supper by the cook it was blowing a gale and we stowed the foresail and spanker and hove to under reefed mainsail and forestaysail. At 7:30 we set the storm trysail on the mizzen.

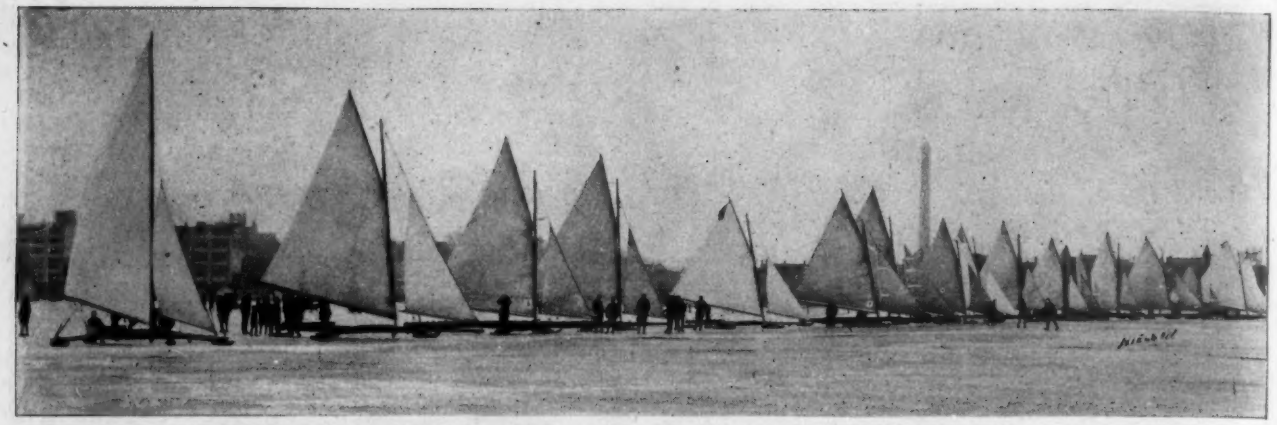
The *Haida* once again proved herself to be an exceptionally dry and good sea boat. It blew hard all night but the wind and sea moderated the next forenoon and we started to forereach. At 10 A. M. we could stow the trysail, set the foresail and single-reefed spanker. Distance made at noon 86.5 miles on a N. 60° E. course. At evening the sky cleared and we sighted Guadeloupe, off the Lower California coast, bearing S. by E. ½ E., distant about 52 miles.

We continued to stand in for the coast and at 5 A. M. set jib, full mainsail and full spanker. By 6:30 the wind became very light and we started the motor. The mountains behind Cape Colenett were visible one point on our weather bow and at noon we had Cape Colenett abeam, distance 8 miles. By the use of the engine during the forenoon we made good 134 miles on a N. 64° E. course. The wind inshore continued very light and we beat up along the coast, using both power and sails. At 6:30 P. M. we had Toledad Pt. bearing N. by E., distant only 1½ miles.

We ran the motor all night and trimmed our sails in flat. As morning dawned the California coast lay close on our starboard hand, showing that we were near the end of our long voyage, and at 7 A. M. we passed Los Coronados Island to starboard, close aboard, and an hour and a half later the outer gas and whistling buoy off Pt Loma was alongside and marked the official end of the voyage.

We stowed and covered all sails and kept on under our engine alone, which still gave us our eight knots without any trouble, and set the signal for the pilot, who boarded us as we crossed the bar at 9:15. An hour later we were secured to the Municipal Pier, where Customs and Emigrant officials boarded us and we were free to go ashore and stretch our legs after 23 days and 20 hours at sea.

During the voyage from Balboa to San Diego the distance run by log was 3,736 miles. Distance from noon to noon positions, 3,774 miles. Time 23 days, 18 hours, from departure to sea buoy off San Diego. Motor run for 112 hours. Like our run on the Atlantic the passage was a noteworthy one for a little vessel, and I doubt if it has ever been equalled by one of the size of the *Haida*.



The start of the Free-For-All at Madison, Wis., brought out a good sized fleet of various types.

Debutante Wins the Stuart Cup

IN a series of three races sailed on Gull Lake the middle of February, the ice boat *Debutante III* representing the Oshkosh Ice Yacht Club and sailed by John Buckstaff beat the ice boat *Wolverine* of Gull Lake in straight races. *Debutante* was the smaller of the two boats, with 650 square feet of sail as compared to the 800 square feet of *Wolverine*. The former boat was built by Geo. Buckhart, formerly of Poughkeepsie, but now Superintendent of the Dauntless Shipyard, Essex.

The race was for the Stuart Cup, one of the most important challenge trophies in the Middle West, where most of our iceboating is now done. *Debutante III* is owned by Arnold and Douglass Van Dyke, and *Wolverine* by D. C. Olin of Kalamazoo, who sailed her in the series. *Hilo,* the third boat entered, was also from Kalamazoo and was sailed by Jay Ball and Harry Scott.

In the first race *Wolverine* carried away her bobstay and had to withdraw. At no time, however, was she dangerous to the Wisconsin boat. The times follow:

FIRST RACE

Course 20 Miles Windward and Return

Boat	Time
Delutante III	0:50:21
Hilo	0:54:21
Wolverine	Withdrew

SECOND RACE

Debutante III	0:59:23¼
Wolverine	1:04:40
Hilo	1:06:36

THIRD RACE

Debutante III	0:50:36
Wolverine	0:54:55
Hilo	Capsized

North Western Ice Boat Association Regatta

By C. J. MEYER

The races of the North Western Ice Boat Association were held at Oshkosh, Wisconsin, on Lake Winnebago, March 4 and 5, 1922, and brought out a good sized fleet of boats.

Results of A, B and C classes:

Class A—Over 350 sq. ft. Sail Area.

Class B—350 sq. ft. Sail Area.

Class C—250 sq. ft. Sail Area.

Course, 12 miles.

The winners were:

Arctic, J. Wollar, Geneva, Class A, Madison

Shadow, C. J. Meyer,, Pewaukee, Class B, Hudson R

Arrow, J. Dean, Madison, Class C, Madison

FIRST HEAT

CLASS A

Arctic, VanKuelen, L. Geneva, 10:37-15
Miss Jazz, P. Fess, Madison, 10:38-45
Miss Wisconsin, A. Flom, Madison, 10:39
Ice Glare, B. Heylman, Oshkosh, 10:39-45
Vanity, E. Hintz, Oshkosh, 10:48-30
Mercury, E. Hintz, Oshkosh, 10:41-25

Time, 37:15

CLASS B

Annie R., C. Rahr, Oshkosh, 10:44
Derla, H. Meyer, Pewaukee, 10:44-45
Lady Luck, C. Marquardt, Oshkosh, 10:48
Miss America, P. Bernard, Madison, 10:48-30
Shadow, C. Meyer, Pewaukee, 10:51
Will of Wisp, E. Lempke, Oshkosh, 10:41-45
Cold Wave, E. Fredricks, Oshkosh, 10:29
Winnebago, B. Flynn, Oshkosh, 10:43-40
Flit, F. Haspell, Madison, out

Time, 40 min.

CLASS C

Red Arrow, J. Dean, Madison, 10:52
Mars, E. Hintz, Oshkosh, 10:54-15
Gad Fly, Speadtke, Oshkosh, 10:54
Valiert II, C. Bernard, L. Geneva, 10:52-30

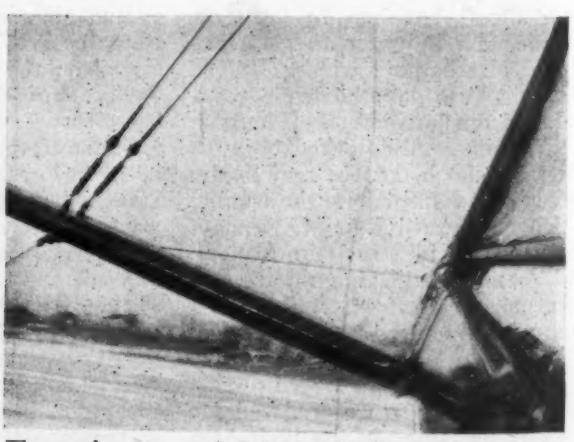
Time, 44 min.

SECOND RACE

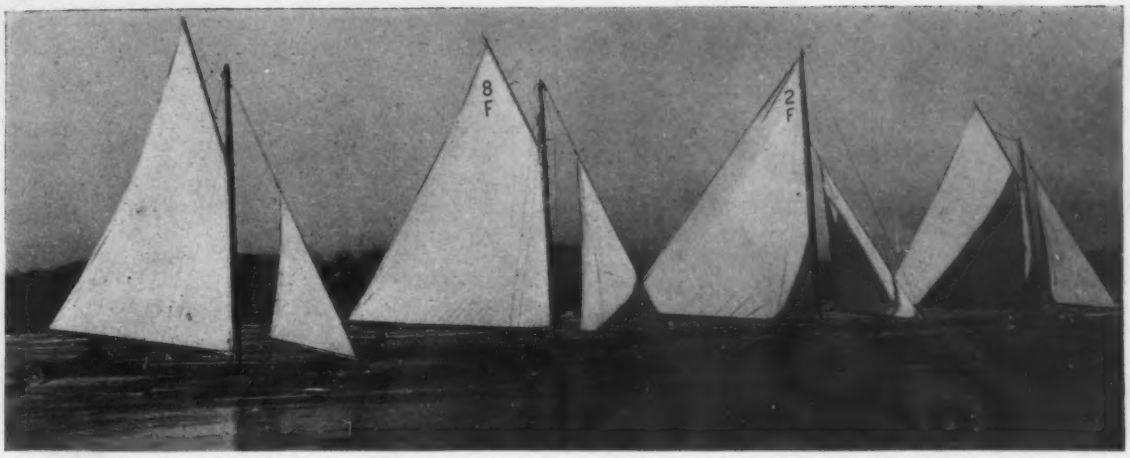
CLASS A

Miss Wisconsin, A. Flom, Madison, 2:38
Arctic, VanKuelen, L. Geneva, 2:38-45
Miss Jazz, P. Fess, Madison, 2:39-50

Waiting for the starting gun on *Debutante III.* Douglas Van Dyke at main sheet, John Buckstaff at tiller.



The weather runner of *Debutante* lifting off the ice in the puffs.



Start of the 300 square foot class. Left to right—*Debutante I, Derla, Shadow,* and *Pappoose.*

Vanity, E. Hintz, Oshkosh, out
Ice Glare, B. Heylman, Oshkosh, out
Time, 29:20

CLASS B

Shadow, C. Meyer, Pewaukee, 2:44
Miss America, P. Bernard, Madison, 2:56-40
Annie R., C. Rahr, Oshkosh, 2:59
Flit, F. Haspell, Madison, 2:59-36
Lady Luck, C. Marquardt, Oshkosh, out
Derla, H. Meyer, Pewaukee, out
Time, 39

CLASS C

Valiert II, C. Bernard, L. Geneva, 2:59-30
Red Arrow, J. Dean, Madison, 3:01-30
Time, 49:30

THIRD RACE

CLASS A

Arctic, VanKuelen, L. Geneva, 4:23
Miss Wisconsin, A. Flom, Madison, 4:37
Time, 52 min.

CLASS B

Shadow, C. Meyer, Pewaukee, 4:30
Miss America, P. Bernard, Madison, out
Derla, H. Meyer, Pewaukee, out
Anna R., C. Rahr, Oshkosh, out
Time, 55 min.

FOURTH RACE

CLASS A

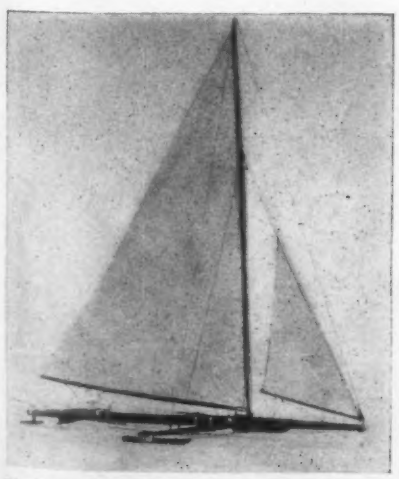
Miss Jazz, P. Fess, Madison, 9:57-20
Arctic, VanKuelen, L. Geneva, 9:59-30
Miss Wisconsin, A. Flom, Madison, 10:01
Time, 42:20

CLASS B

Shadow, C. Meyer, Pewaukee, 10:00
Lady Luck, C. Marquardt, Oshkosh, 10:03
Annie R., C. Rahr, Oshkosh, 10:06
Derla, H. Meyer, Pewaukee, 10:06-45
Flit, F. Haspell, Madison, 10:08

CLASS C

Red Arrow, J. Dean, Madison, 9:57-20
Valiert II, C. Bernard, L. Geneva, 10:14
Miss Wisconsin, A. Flom, Madison, won the Postponed Races of the Free for All.



Shadow, champion in the 350 square foot class. Owned and sailed by C. J. Meyer.

While the races were a success and the skippers had some good sport, the ice conditions were not very good as snow and soft ice made the going hard. The lighter boats had the advantage. The Marconi rig on the *Shadow,* the Pewaukee entry, proved very fast in heavy going.

Next winter's sport will undoubtedly bring out a bunch of new boats.

The rules of the Northwestern Ice Boat Racing Association are being printed and a copy may be had by applying to the Secretary or C. J. Meyer, Evinrude Motor Company, Milwaukee, Wis.

The 1923 Regatta is to be held on Lake Geneva. The officers for 1923 are:

C. J. Meyer, President, Evinrude Motor Co., Milwaukee.

John Buckstaff, Vice-President, Oshkosh, Wisconsin.

E. C. Woller, Jr., Secretary, Geneva Lake, Wisconsin.

C. D. Marquardt, Treasurer, Oshkosh, Wisconsin.

The changes in classes of importance to Ice Boat Sailors are:

Class A—All boats over 350 sq. ft. sail area.

Class B—Limit of sail area—350 sq. ft. and measuring not over 32 ft. from ice to tip of sail. Two sets of sails allowed but measurements of sails shall not exceed 5 per cent. either way.

Class C—Sail area not to exceed 250 sq. ft.

Some Points on Ice Boat Runners

By DOUGLAS VAN DYKE

There has been considerable ice boating activity in the West this year and many yachtsmen are taking up the sport. The Meyers boys have built some very nice boats and some races were held at Madison and at Lake Geneva, Wisconsin, and on Lake Winnebago. Detroit has also held some very good races.

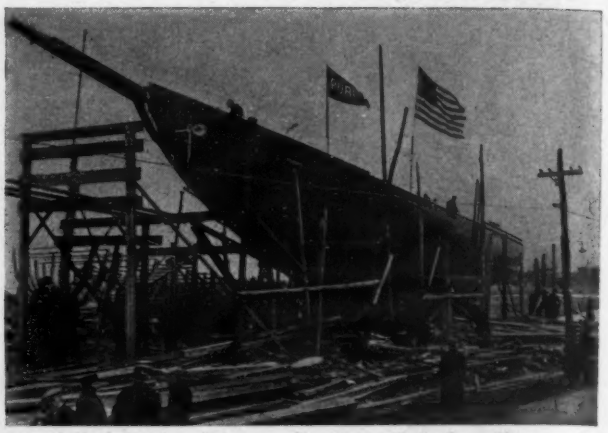
The interest out here is now principally confined to boats of either the 300 or 350 sq. ft., which, to my mind, is a vastly better size than the large boats, as more persons will become interested in the sport when there is not the heavy expense incidental to racing one of the larger craft.

We are now making some rather interesting experiments. When I was in Washington last summer, I called at the Bureau of Standards to ascertain the type of metal which would produce the least friction on ice. One of the professors in charge informed me that in his opinion it was not so much a matter of the metal as the temperature of such metal. He cited instances where arctic explorers had found it almost impossible to draw their sleds over the ice, due to the fact that the ice was so cold that no water film was produced by friction of the runners on the ice, which film is, of course, the lubricant. It is this

(*Continued on page* 302)

Miss Wisconsin, a Bernard type ice boat owned by C. R. Steinle, winner Free-For-All at Oshkosh.

Puritan, a new Gloucester schooner built for the International Fisherman's Race.



Puritan before leaving the ways, showing underbody. She was designed by Starling Burgess.

Star Class Championship Dates

The dates for the National championship races of the recently formed Star Class Yacht Racing Association have been fixed for Sept. 18th, at the Bayside Yacht Club, Sept. 19th, at the Port Washington Yacht Club, and Sept. 20th at the Manhasset Bay Yacht Club. At this championship event Star Class boats from practically all of the fleets of Star boats in the United States will be represented, and it looks now as if there will be a boat from California in the race from the fleet which has been started at Los Angeles. This challenge from California makes the seventh entry for the championship event. It will be noted that these dates closely follow the races for the International 6-Meter boats, off Oyster Bay.

The Perpetual Trophy will consist of a handsome model of a Star with sails set, made to a one-inch scale and mounted on mahogany placque with glass shadow box and silver name plates. This will become the property for one year of the fleet winning the series. In addition to this, the crews finishing first, second, and third, will receive championship medals for their respective races; a complete suit of sails has been offered by Burrows, to the owner of the winning Star, and the New England Boat Works have offered a new Star at half price the following season to the crew of the winning boat.

The Star Class Association Committee has reported that the Rochester Star boats are eligible and they have been requested to join the association and form a Lake Ontario fleet.

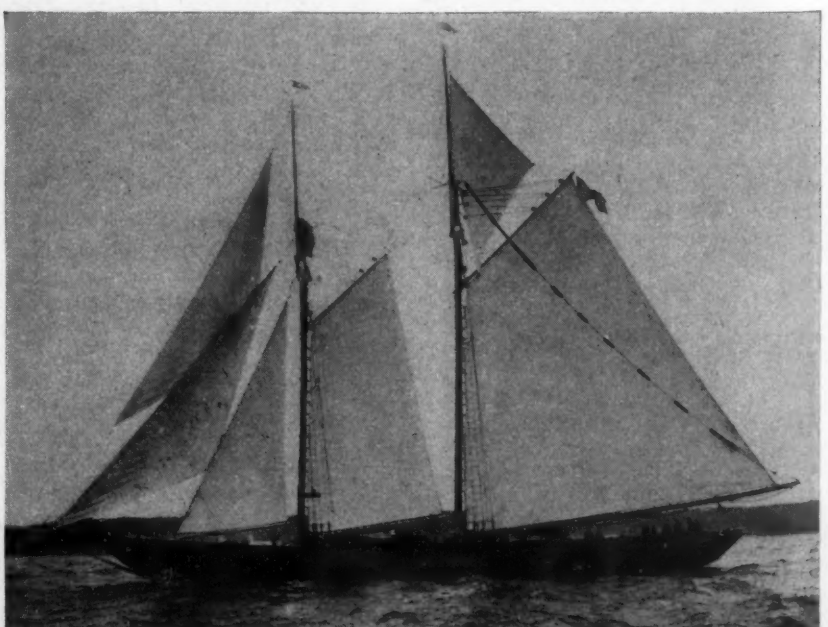
In addition to this, Star Class fleets are being promoted in the following localities; Green Bay and Lake Michigan, organized by Clinton Dewitt, Oconto, Wis.; St. Johns River, promoted by G. W. Gibbs, Jacksonville, Fla.; Newport Bay, Calif., I. B. Potter, Riverside, Calif.

It should be noted that the Long Island racing schedule shows forty-two racing dates for the Stars this coming season that do not conflict with other events. If any of the boats coming East for the challenge trophy arrive before Labor Day, they can get almost continuous racing up to the dates of the challenge race.

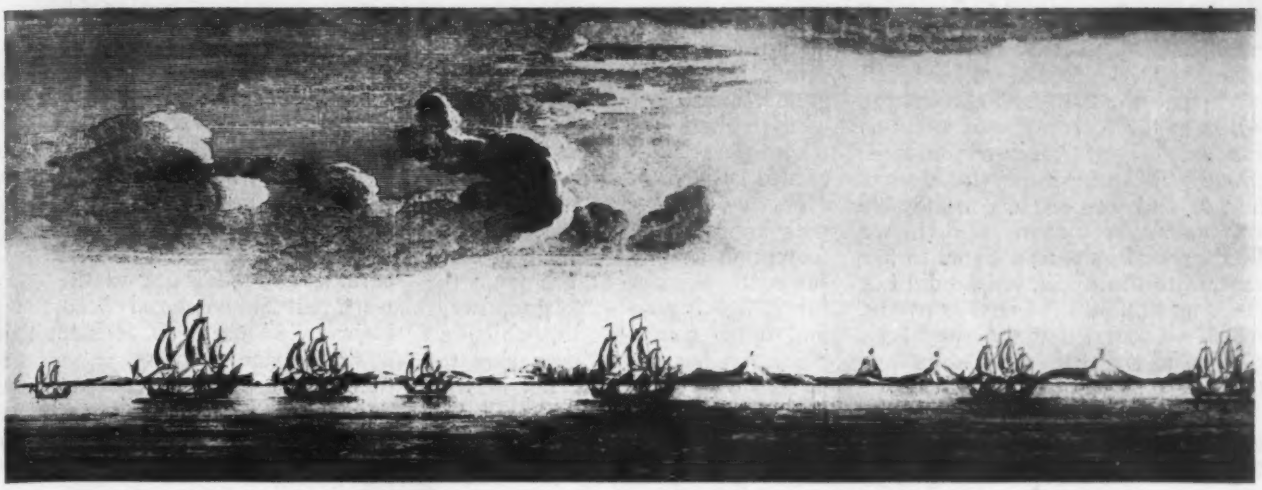
Lake Michigan Yachting Association Schedule

The following is the full racing schedule for 1922 of the Lake Michigan Yachting Association:

June 17th	Chicago-Michigan City Race	Columbia Yacht Club
June 18th	Stratford Hotel Cup Race, Michigan City to Chicago	Chicago Yacht Club
July 4th	L. M. Y. A. Regatta off Belmont Harbor	Chicago Yacht Club
July 8th	Chicago to Saugatuck	L. M. Y. A. Yacht Clubs
July 22nd	Chicago-Mackinac Race—330 miles	Chicago Yacht Club
August 17th, August 18th, August 19th	Lipton Cup Races—Class R	Chicago Yacht Club
August 26th	Chicago-Racine Race	Chicago Yacht Club
August 26th	Milwaukee-Racine Race	South Shore Yacht Club
August 27th	Racine to Kenosha	Racine Yacht Club
September 2nd	Jackson Park to Michigan City	Jackson Park Yacht Club
September 4th	South Shore Annual Regatta—Milwaukee	South Shore Yacht Club
September 4th	Nutting Cup Race—"R" Class	Chicago Yacht Club
September 8th, September 9th, September 10th	"Q" Class Championship	Jackson Park Yacht Club
September 16th	Autumn Regatta	Chicago Yacht Club



The first picture of *Puritan*, the new Gloucester schooner, under sail.



Lord Anson's fleet passing Terra Del Fuego on its passage through the Straits of La Maire. From an old print.

The Cape Horn Passage in the Early Days

Being an Account of the Hardships Experienced in Doubling the Cape in 1740, Taken from Lord Anson's Voyages

IN the year 1739, war broke out between England and Spain. The English policy was to attack Spain through her distant colonies and destroy her trade. So Lord Anson was sent out, primarily to destroy the Spanish towns and trade in the Eastern Pacific. This meant rounding Cape Horn, a voyage very much dreaded in those days, as it is today.

The start was delayed until September, 1740, and for this reason the plan was discovered by the Spaniards and measures were taken by them for defense.

Lord Anson's fleet was made up as follows:

Centurion (flgsp)	50 guns	400 men
Gloucester	50 "	300 "
Severn	50 "	300 "
Pearl	40 "	250 "
Wager	28 "	160 "
Tryal (sloop)	8 "	100 "

There were also two Pinks as supply ships, to be sent back as emptied. For land forces, to be used in attacking the towns, there were distributed through the fleet 470 marines and invalids, the latter impressed from the seamen's home.

Just before the fleet sailed, on September 18, 1740, Don Joseph Pizarro was sent out by the court of Spain with a fleet to intercept them. His fleet consisted of six ships, mostly large vessels, heavily manned. Pizarro failed to intercept Lord Anson in the Atlantic, and set sail for the Pacific, but his squadron was broken up and driven back trying to round Cape Horn. In fact the two squadrons passed each other at about this point.

The voyage of the English fleet around the Horn is most interesting to us, as it shows the hardship and perils encountered by the ships of the period. Some of the ships and many men were lost. The narrative was published under the name of the chaplain of the flagship, though it was really written from the Commander's personal papers of the voyage.

1—*Departure from the Bay of St. Julian (Argentina) and the passage through the Straits Le Maire.*

The *Tryal* being nearly refitted, which was our principal occupation at this bay of St. Julian, and the sole occasion of our stay, the Commodore thought it necessary, as we were now directly bound for the South Seas and the enemy's coasts, to fix the plan of his first operations. Therefore, on the 24th of February, a signal was made for all captains, and a Council of War was held on board the *Centurion*. At this Council Mr. Anson proposed, that their first attempt, after their arrival in the South Seas, should be the attack of the town and harbour of Baldivia, the principal frontier of the district of Chili, Mr. Anson informing them, at the same time, that it was an article contained in his Majesty's instructions to him to endeavour to secure some port in the South Seas where the ships of the squadron might be careened and refitted. To this proposition made by the Commodore, the Council unanimously and readily agreed; and in consequence of this resolution, new instructions were given to the captains of the squadron, by which, though they were still directed, in case of separation, to make the best of their way to the Island of Nuestra Senora del Socoro, yet (notwithstanding the orders they had formerly given them at St. Catherine's) they were to cruise off that Island only ten days; from whence, if not joined by the Commodore, they were to proceed, and cruise off the harbour of Baldivia, making the land between the latitude of 40°, and 40° 30′ S., and taking care to keep to the southward of the port; and if in fourteen days they were not joined by the rest of the squadron, they were then to quit this station and to direct their course to the Island of Juan Fernandes, after which they were to regulate their further proceedings by their former orders.

The same directions were also given to the master of the *Anna Pink*, who was not to fail in answering the signals made by any ship of the squadron and was to be very careful to destroy his papers and orders if he should be so unfortunate as to fall into the hands of the enemy. And as the separation of the squadron might prove of the utmost prejudice to his Majesty's service, each captain was ordered to give it in charge to the respective officers of the watch, not to keep their ship at a greater distance from the *Centurion* than two miles, as they would answer it at their peril; and if any captain should find his ship beyond the distance specified, he was to acquaint the Commodore with the name of the officer who had thus neglected his duty.

These necessary regulations being established, and the *Tryal* Sloop completed, the squadron weighed on Friday the 27th of February, at seven in the morning, and stood to the sea. The *Gloucester*, indeed, found a difficulty in purchasing her anchor and was left a considerable way astern, so that in the night we fired several guns as a signal to her captain to make sail, but he did not come up to us till the next morning, when we found that they had been obliged to cut their cable and leave their best bower behind them.

At ten in the morning, the day after our departure, Wood's Mount, the highland over St. Julian, bore from us N. by W., distant ten leagues, and we had 52 fathom of water. And now standing to the southward, we had great expectation of falling in with Pizarro's squadron; for, during our stay at port St. Julian, there had generally been hard gales between the W. N. W. and S. W., so that we had reason to conclude the Spaniards had gained no ground upon us in that interval. Indeed, it was the prospect of meeting with them that had occasioned our Commodore to be so very solicitous to prevent the separation of our ships: For, had we been solely intent upon getting round Cape Horn in the shortest time, the properest method for this purpose would have been to have ordered each ship to have made the best of her way to the rendezvous, without waiting for the rest.

From our departure from St. Julian to the 4th of March, we had little wind, with thick hazy weather, and our soundings were generally from 40 to 50 fathom, with a bottom of black and grey sand, sometimes intermixed with pebble stones. On the 4th of March we were in sight of Cape Virgin Mary, and not more than six or seven leagues distant from it. This cape is the northern boundary of the entrance of the Straits of Magellan. It lies in the latitude of 52°: 21′ South, and longitude from London 71°: 44′ West, and seems to be a low flat land, ending in a point. And for a direction to such ships as may, by particular reasons, be induced hereafter to pass through those Straits into the South Seas, I have annexed a very accurate draught of its appearance, where (a) represents the Cape itself. Off this Cape our depth of water was from 35 to 48 fathom.

The afternoon of this day was very bright and clear, with small breezes of wind, inclinable to a calm, and most of the captains took the opportunity of this favourable weather to pay a visit to the Commodore; but while they were in company together they were all greatly alarmed by a sudden flame which burst out on board the *Gloucester*, and which was succeeded by a cloud of smoke. However, they were soon relieved from their apprehensions by receiving information that the blast was occasioned by a spark of fire from the forge, lighting on some gunpowder and other combustibles, which an officer on board was preparing for use in case we should fall in with the Spanish fleet; and that it had been extinguished, without any damage to the ship.

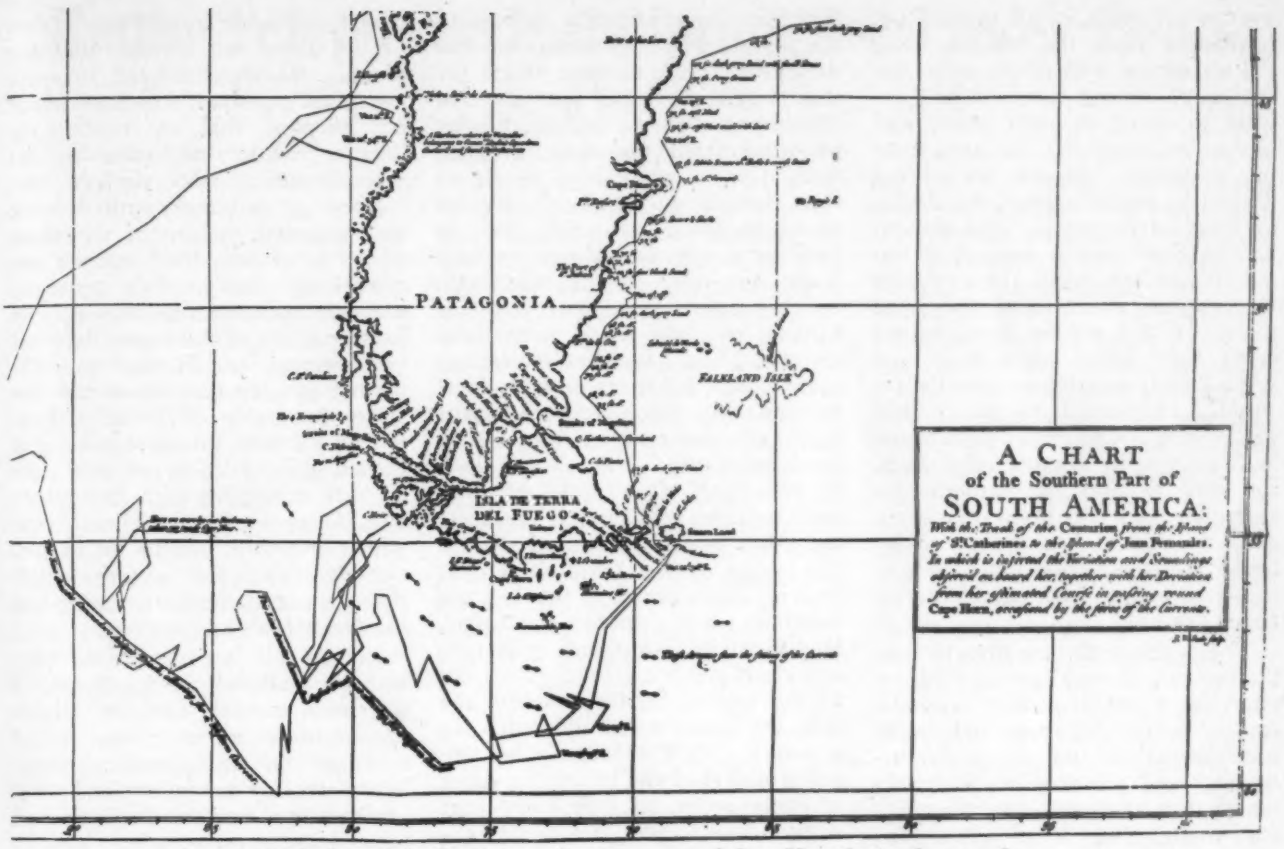
We here found what was constantly verified by all our observations in these high latitudes, that fair weather was always of an exceeding short duration, and that when it was remarkably fine it was a certain presage of a succeeding storm, for the calm and sunshine of our afternoon ended in a most turbulent night, the wind freshening from the S. W. as the night came on and increasing its violence continually till nine in the morning the next day, when it blew so hard that we were obliged to bring to with the squadron and to continue under a reefed mizzen till eleven at night, having in that time from 43 to 57 fathom water, with black sand and gravel; and by an observation we had at noon, we concluded a current had set us twelve miles to the southward of our reckoning.

Towards midnight, the wind abating, we made sail again, and steering South, we discovered in the morning for the first time the land called Terra del Fuego, stretching from the S. by W., to the S. E. ½E. This indeed afforded us but a very uncomfortable prospect, it appearing of a stupendous height, covered everywhere with snow.

We steered along this shore all day, having soundings from 40 to 50 fathom, with stones and gravel. And as we intended to pass through Straits Le Maire next day, we lay to at night that we might not overshoot them, and took this opportunity to prepare ourselves for the tempestuous climate we were to be engaged in; with which view, we employed ourselves a good part of the night in bending an entire new suit of sails to the yards. At four the next morning, being the 7th of March, we made sail, and at eight saw the land; and soon after we began to open the Straits. And here I must observe, that though Frezier has given us a very correct prospect of the part of Terra del Fuego which borders on the Straits, yet he has omitted that of Staten Land, which forms the opposite shore: Hence we found it difficult to determine exactly where the Straits lay till they began to open to our view; and for want of this, if we had not happened to have coasted a considerable way along shore, we might have missed the Straits, and have got to the eastward of Staten Land before we knew it. This is an accident that has happened to many ships, particularly, as Frezier mentions, to the *Incarnation* and *Concord*, who intending to pass through Straits Le Maire, were deceived by three hills on Staten Land like the three brothers, and some creeks resembling those of Terra del Fuego, and thereby overshot the Straits.

And on occasion of this prospect of Staten Land, I cannot but remark, that though Terra del Fuego had an aspect extremely barren and desolate, yet this Island of Staten Land far surpasses it in the wildness and horror of its appearance, it seeming to be entirely composed of inaccessible rocks, without the least mixture of earth or mold between them. These rocks terminate in a vast number of ragged points which spire up to a prodigious height, and are all of them covered with everlasting snow; the points themselves are on every side surrounded with frightful precipices, and often overhang in a most astonishing manner; and the hills which bear them are generally separated from each other by narrow clefts, which appear as if the country had been frequently rent by earthquakes, for these chasms are nearly perpendicular, and extend through the substance of the main rocks almost to their very bottoms: So that nothing can be imagined more savage and gloomy than the whole aspect of this coast. But to proceed:

I have above mentioned that on the 7th of March, in the morning, we opened Straits Le Maire, and soon after, or about ten o'clock, the *Pearl* and the *Tryal*, being ordered to keep ahead of the squadron, we entered them with fair weather and a brisk gale, and were hurried through by the rapidity of the tide in about two hours, though they are between seven and eight leagues in length. As these Straits are often esteemed to be the boundary between the Atlantic and Pacific oceans, and as we presumed we had nothing before us from hence but an open sea, till we arrived on those opulent coasts where all our hopes and wishes centered,



Track chart of the *Centurion* on the passage around Cape Horn, lasting three months.

we could not help persuading ourselves that the greatest difficulty of our voyage was now at an end and that our most sanguine dreams were upon the point of being realised; and hence we indulged our imaginations in those romantic schemes which the fancied possession of the Chilian gold and Peruvian silver might be conceived to inspire.

These joyous ideas were considerably heightened by the brightness of the sky and serenity of the weather, which was indeed most remarkably pleasing; for though the winter was now advancing apace, yet the morning of this day, in its brilliancy and mildness, gave place to none we had seen since our departure from England. Thus animated by these flattering delusions, we passed those memorable Straits, ignorant of the dreadful calamities which were then impending, and just ready to break upon us; ignorant that the time drew near when the squadron would be separated never to unite again, and that this day of our passage was the last cheerful day that the greatest part of us would ever live to enjoy.

2—*From Straits Le Maire to Cape Noir.*

We had scarcely reached the southern extremity of the Straits of Le Maire, when our flattering hopes were instantly lost in the apprehensions of immediate destruction. For before the sternmost ships of the squadron were clear of the Straits, the serenity of the sky was suddenly obscured and we observed all the presages of an impending storm; and presently the wind shifted to the southward, and blew in such violent squalls that we were obliged to hand our topsails, and reef our mainsail; whilst the tide too, which had hitherto favoured us, at once turned furiously against us, and drove us to the eastward with prodigious rapidity, so that we were in great anxiety for the *Wager* and the *Anna Pink*, the two sternmost vessels, fearing they would be dashed to pieces against the shore of Staten Land. Nor were our apprehensions without foundation, for it was with the utmost difficulty they escaped.

And now the whole squadron, instead of pursuing their intended course to the S. W., were driven to the eastward by the united force of the storm and of the currents; so that next day in the morning we found ourselves near seven leagues to the eastward of Straits Le Maire, which then bore from us N. W. The violence of the current, which had set us with so much precipitation to the eastward, together with the fierceness and constancy of the westerly winds, soon taught us to consider the doubling of Cape Horn as an enterprise that might prove too mighty for our efforts, though some amongst us had lately treated the difficulties which former voyagers were said to have met with in this undertaking as little better than chimerical, and had supposed them to arise rather from timidity and unskilfulness than from the real embarrassments of the winds and seas. But we were now severely convinced that these censures were rash and ill-grounded, for the distresses with which we struggled, during the three succeeding months will not easily be paralleled in the relation of any former naval expedition. This will, I doubt not, be readily allowed by those who shall carefully peruse the ensuing narration.

From the storm which came on before we had well got clear of Straits Le Maire, we had a continual succession of such tempestuous weather as surprized the oldest and most experienced mariners on board, and obliged them to confess that what they had hitherto called storms were inconsiderable gales compared with the violence of these winds, which raised such short, and at the same time such mountainous waves, as greatly surpassed in danger all seas known in any other part of the globe. And it was not without great reason that this unusual appearance filled us with continual terror; for, had any one of these waves broke fairly

over us, it must, in all probability, have sent us to the bottom. Nor did we escape with terror only; for the ship, rolling incessantly gunwale to, gave us such quick and violent motions that the men were in perpetual danger of being dashed to pieces against the decks, or sides of the ship. And though we were extremely careful to secure ourselves from these shocks by grasping some fixed body, yet many of our people were forced from their hold, some of whom were killed, and others greatly injured. In particular, one of our best seamen was canted overboard and drowned, another dislocated his neck, a third was thrown into the main hold and broke his thigh, and one of our boatswain's mates broke his collar bone twice; not to mention many other accidents of the same kind.

These tempests, so dreadful in themselves, though unattended by any other unfavourable circumstance, were yet rendered more mischievous to us by their inequality and the deceitful intervals which they at some times afforded; for though we were oftentimes obliged to lie to for days together under a reefed mizzen, and were frequently reduced to lie at the mercy of the waves under our bare poles, yet now and then we ventured to make sail with our courses double reefed; and the weather proving more tolerable would perhaps encourage us to set our topsails; after which, the wind, without any previous notice, would return upon us with redoubled force and would in an instant tear our sails from the yards. And that no circumstance might be wanting which could aggrandize our distress, these blasts generally brought with them a great quantity of snow and sleet which cased our rigging and froze our sails, thereby rendering them and our cordage brittle and apt to snap upon the slightest strain, adding great difficulty and labor to the working of the ship, benumbing the limbs of our people and making them incapable of exerting themselves with their usual activity, and even disabling many of them by mortifying their toes and fingers. It were indeed endless to enumerate the various disasters of different kinds which befell us, and I shall only mention the most material, which will sufficiently evince the calamitous condition of the whole squadron during the course of this navigation.

It was on the 7th of March, as hath been already observed, that we passed Straits Le Maire and were immediately afterwards driven to the eastward by a violent storm and the force of the current which set that way. For the four or five succeeding days we had hard gales of wind from the same quarter, with a most prodigious swell, so that though we stood, during all that time, towards the S.W., yet we had no reason to imagine we had made any way to the westward. In this interval we had frequent squalls of rain and snow and shipped great quantities of water; after which, for three or four days, though the seas ran mountains high, yet the weather was rather more moderate. But on the 18th we had again strong gales of wind with extreme cold, and at midnight the main topsail split, and one of the straps of the main dead eyes broke. From hence, to the 23d, the weather was more favorable, though often intermixed with rain and sleet, and some hard gales; but as the waves did not subside, the ship, by labouring in this lofty sea was now grown so loose in her upper works that she let in the water at every seam, so that every part within board was constantly exposed to the sea water, and scarcely any of the officers ever lay in dry beds. Indeed, it was very rare that two nights ever passed without many of them being driven from their beds by the deluge of water that came in upon them.

On the 23d, we had a most violent storm of wind, hail, and rain, with a very great sea; and though we handed the main topsail before the height of the squall, yet we found the yard sprung; and soon after the foot-rope of the mainsail breaking, the mainsail itself split instantly to rags, and, in spite of our endeavors to save it, much the greater part of it was blown overboard. On this, the Commodore made the signal for the squadron to bring to; and the storm at length flattening to a calm we had an opportunity of getting down our main topsail yard to put the carpenters to work upon it, and of repairing our rigging; after which, having bent a new mainsail, we got under sail again with a moderate breeze.

But in less than twenty-four hours we were attacked by another storm still more furious than the former; for it proved a perfect hurricane and reduced us to the necessity of lying to under our bare poles. As our ship kept the wind better than any of the rest, we were obliged, in the afternoon, to wear ship, in order to join the squadron to the leeward, which otherwise we should have been in danger of losing in the night. And as we dared not venture any sail abroad, we were obliged to make use of an expedient which answered our purpose; this was putting the helm a weather and manning the fore-shrouds: But though this method proved successful for the end intended, yet in the execution of it one of our ablest seamen was canted overboard. We perceived that notwithstanding the prodigious agitation of the waves he swam very strong, and it was with the utmost concern that we found ourselves incapable of assisting him; indeed we were the more grieved at his unhappy fate, as we lost sight of him struggling with the waves, and conceived from the manner in which he swam, that he might continue sensible for a considerable time longer of the horror attending his irretrievable situation.

Before this last mentioned storm was quite abated, we found two of our main shrouds and one mizzen shroud broke, all which we knotted and set up immediately. From hence we had an interval of three or four days less tempestuous than usual, but accompanied with a thick fog, in which we were obliged to fire guns almost every half hour to keep our squadron together.

On the 31st, we were alarmed by a gun fired from the *Gloucester* and a signal made by her to speak with the Commodore; we immediately bore down to her and were prepared to hear of some terrible disaster; but we were apprised of it before we joined her, for we saw that her main yard was broke in the slings. This was a grievous misfortune to us all at this juncture, as it was obvious it would prove a hindrance to our sailing and would detain us the longer in these inhospitable latitudes. But our future success and safety was not to be promoted by repining, but by resolution and activity; and therefore, that this unhappy incident might delay us as little as possible, the Commodore ordered several carpenters to be put on board the *Gloucester* from the other ships of the squadron in order to repair her damage with the utmost expedition. And the captain of the *Tryal*, complaining at the same time that his pumps were so bad and the sloop made so great a quantity of water that he was scarcely able to keep her free, the Commodore ordered him a pump ready fitted from his own ship. It was very fortunate for the *Gloucester* and the *Tryal* that the weather proved more favorable this day than for many days,

(*Continued on page* 311)

Radio Telephone Installation for Power Boats

By J. R. WILSON

THE novelty of picking out all kinds of intelligible sounds from an apparently quiet atmosphere has at once delighted everyone who has listened-in on a radio-telephony receiving set. Recent developments have made it possible for the man who has but limited time to devote to radio to install a set and receive by the use of a few simple and easily grasped rules. Amateur radio sets of this type are being installed by thousands weekly throughout the country. Central sending stations have been erected at various points throughout the United States which daily broadcast weather reports, market reports, sport news, events of the day, music and lectures.

Receiving sets can be installed in yachts and small boats as easily as in any home and in most cases at no greater cost. The equipment is not excessively heavy or bulky. The electrical power requirements are small. No matter what the size of the boat, a receiving set can be installed, and no matter where one is cruising he and the ship's company can keep in touch with what is going on in the world, and at the same time get a lot of enjoyment out of the air. Ordinarily, installations can be best made on boats from 40 feet in length up, but even in the smaller sizes there is no difficulty in installing a satisfactory set and it is predicted that in a short time the majority of pleasure boats will have one of these little outfits aboard.

Considered from the standpoint of installation the receiving set can be divided into three parts;—1, the antenna or aerial, 2, the receiver, and 3, the ground. The aerial is a bare copper wire strung in the air which gathers the radiations sent out by the broadcasting stations. The aerial converts the radiations to electrical currents which are conveyed to the receiver by another wire. The receiver, roughly speaking, is a device for converting the inaudible electrical current into audible sounds. The ground is a wire running from the receiver to the earth, either land or water, to complete the electrical circuit.

The Aerial

The strength of the signals received for a particular set depends upon the number of radiations gathered and delivered to the receiver as electrical current. This in turn depends on the length of the aerial wire and its location. Aerials on boats are particularly favorably located because of the absence of shielding buildings and hills. On the other hand the length of wire which can be strung is limited, particularly if the trim appearance of the boat is to be maintained. For a boat having two masts the problem is solved by stringing a number of wires in parallel between the two masts. For a boat having one mast it is hard to string more than one wire and maintain a trim appearance. A single wire can easily be run from the top of the mast either fore or aft, or, if the boat is particularly short, from fore to aft over the top of the mast, if the boat carries no sail. A sail boat will probably he harder to rig up with a wire from fore to aft over the mast because of the difficulty of clearing the sails.

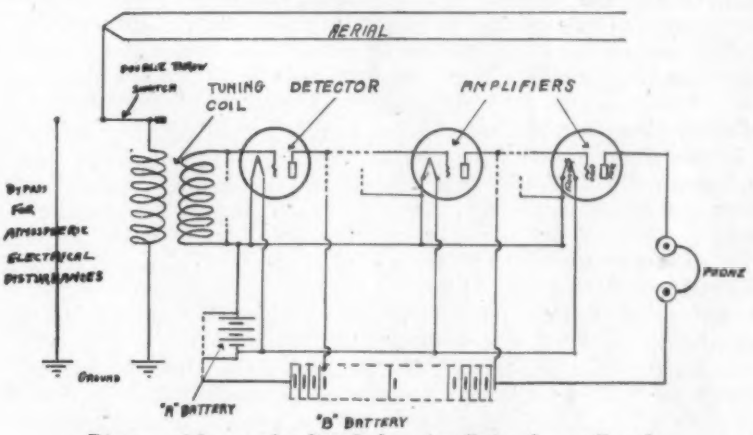


Diagram of layout of radio telephone installation for small yacht.

If a sailing yacht is to be rigged, it merely means that the antennae wire or wires should be at least 5 inches from any other stay or shroud. The wires can be rigged from the masthead through the spreader and down to the rail, or if the vessel is large enough a single wire from the truck to the end of the bowsprit could be made to answer.

If 30 to 40 feet of wire can be strung no trouble in good receiving should be experienced. It is advisable to have more if possible because the stronger the electrical current delivered to the receiver the better the reception. The larger the aerial the greater the range, i. e., broadcasting stations further away can be heard. Eighty to two hundred feet of wire are recommended for fairly long ranges. Less than 30 feet will serve but the signals are apt to be weak and the range small. It is true that a weak initial signal can be amplified by the use of additional apparatus in the receiver but this is not desirable even if the additional expense is unobjectionable There are inherent noises in the receiver which are unnoticeable when a strong initial signal is converted to audibility but which are amplified along with the weak initial signal when a poor aerial is compensated for by extra amplification. This detracts from the quality of the received message.

It is quite important that the aerial be well insulated from the rest of the boat in order to prevent loss of current by leakage. The useful current delivered to the receiver is weak under the best of conditions and every leak weakens it still further.

The lead wire from the aerial should be of heavy copper wire and go by the shortest route to the receiver. If it passes through the bulkhead of a cabin it should be well insulated. For a receiving set it is preferable to attach the lead wire to one end of the aerial to get maximum signal strength although there is no objection to a mid-point attachment if the physical conditions necessitate it.

The Ground

For the ground it is only necessary to be sure that the wire leading from the receiver has good electrical connections to a piece of non-insulated metal which is in contact with the water. For the most efficient receiving the lead wires should be of fairly heavy copper and the metal in contact with the water of large surface. Thin sheets of unpainted copper or other non-

corroding metal on the bottom below the water line make good grounds. If the boat is in the water and it is undesirable to haul her out, an engine connected to a propeller shaft or a length of heavy bare copper wire dipping in the water or a combination of the two will serve for the ground.

Salt water makes a better ground than fresh water, and, consequently, less exposed metal surface is needed to give the same results with the former.

The Receiver

The receiver is the most complicated part of the radio set and as this is being written for the man who cares little about making or assembling the various parts of the receiver the assumption is made that he will buy a receiver already made up from some reliable dealer.

The main parts of a receiver are the tuning coil, the detector, the amplifiers and the phone.

By means of the tuning coil a selection can be made of the particular sending station that one wishes to listen in on. Several sending stations may be broadcasting in the same area at the same time but usually they are not sending out radiations of the same wave length.

The different wave lengths can be likened to different colored lights. For instance red light is a long wave and green light is a shorter wave. Suppose that signals are being sent by flashing colored lights on a screen. If only red light is flashed an observer would have no trouble in decoding the message by noting the flashes. If from another source a different message is flashed at the same time in green light a maze of unintelligible flashes results. However, if the observer has a pair of adjustable glasses which allow only red light to pass he again is able to observe the red flashes alone and get coherent signals. A selective action has been made. This is exactly the function of the tuning coil. The aerial picks up all wave lengths but the tuning coil passes on only certain wave lengths to the detector. The selective action of the tuning coil can be varied within certain limits by adjustment, in much the same way that the observer of the red flashes of light would at any time be able to observe the green flashes to the exclusion of the red by having adjustable glasses which at another adjustment would allow only green light to pass.

Radio sets now being offered can be adjusted to cover various wave lengths. In general, the greater the number of wave lengths covered the more extensive the apparatus and consequently the more expensive. The wave lengths used by the central broadcasting stations can usually be found in the local papers and apparatus ordered accordingly.

As well as being selected for wave length range a coil should be selected for sharpness of tuning, i.e., the sharpness with which it will single out one set of wave lengths from the next.

The detector is a devise for allowing the alternating current from the tuning coil to flow one way. By so doing it converts the inaudible electrical current into impulses which later on in the phones become audible sounds. There are two types of detectors available, the crystal detector and the electron- or vacuum-tube detector. The crystal detectors are the cheaper. They are used extensively in short range sets where no battery is used, and give good results up to about 50 miles. Vacuum-tube detectors are used for long-range work and when amplification is desired. They are also more reliable in a well-designed set.

The amplifiers are vacuum tubes similar to the detector tubes—in fact, they can be used interchangeably by proper adjustment. Their function is to increase the strength of the detected signals. The increase in strength is due to the application of additional electrical impulses at the right moment. This additional electrical impulse is derived from storage or dry batteries attached to the receiver. Each amplifier added requires additional batteries. It is not practical to have more than three stage amplification. One or two amplifiers are usually enough.

The voltage and current needed for the detector and amplifiers depend upon the make used and the degree of amplification. For some simple sets a single storage cell is all that is essential. If the boat is lighted by storage cells connected to a generating plant in the boat it is only necessary to take leads off the proper points on the battery.

The phone is equivalent to the receiver on a telephone. In it the electrical impulses which have been selected, detected and amplified are transformed into audible sounds. The phone may be either a head set or a loud speaker. A head set restricts the number of listeners but has the advantage of giving better audition. Several types of loud speakers are on the market under different trade names. Some require additional batteries to operate. In selecting a head set, quality and clearness over a range of strength of sound should be considered. The best head sets can be obtained for about $15.00, but there are good ones on the market at cheaper prices.

The various parts of the receiver, along with their accessories, with the exception of the phone and battery, can usually be obtained mounted in one or two boxes which are compact and neat in appearance. The adjustable parts are hidden behind panels, and adjustment is made by means of knobs or switches on the face. They can be mounted conveniently on a small table inside a cabin or on the bulkhead. The unsightly batteries can be housed in special boxes or placed in the hold or in lockers out of the way. If connections are made to a battery already installed the wires can be brought up through the deck at the place of installation of the receiver.

At present a good set can be installed for about $65.00. Crystal detector sets can be installed cheaper. A two-stage amplifier set can be obtained for about $125.00, but the best run somewhat higher. Many expensive sets now in the market done in period style casings are oftentimes inferior to a much cheaper set. It is only necessary to listen in a few times and find out the power consumption of each to detect the better.

When preparing to install a set it is advisable to determine the amount of aerial that can be strung, the wave lengths to be received, the range desired and the amount of space available for the receiver. Talk it over with a reliable dealer or experienced radio operator and find what is needed. A properly installed set will give unlimited satisfaction.

For a Seawanhaka Cup Race in the 6-Meter Class

THERE may be a race for that historic bit of silverware known as the Seawanhaka Cup, first raced between England and the Seawanhaka-Corinthian Y. C. back in 1896, if the English visitors with the 6-meter yachts care to take on another engagement, for the Manchester Yacht Club of Manchester, Massachusetts, the present holder of the Seawanhaka International Challenge Cup, has announced that it is prepared to receive from any organized yacht clubs foreign to the United States challenges for this cup, for a match to be sailed during the yachting season of 1922, preferably the last week in September, pursuant to the terms of the Deed of Trust made

(*Continued on page* 293)

Photo by M. Rosenfeld

A rig that is rarely seen nowadays.
Yacht *Thistle* with topsail schooner rig and stun'sail.

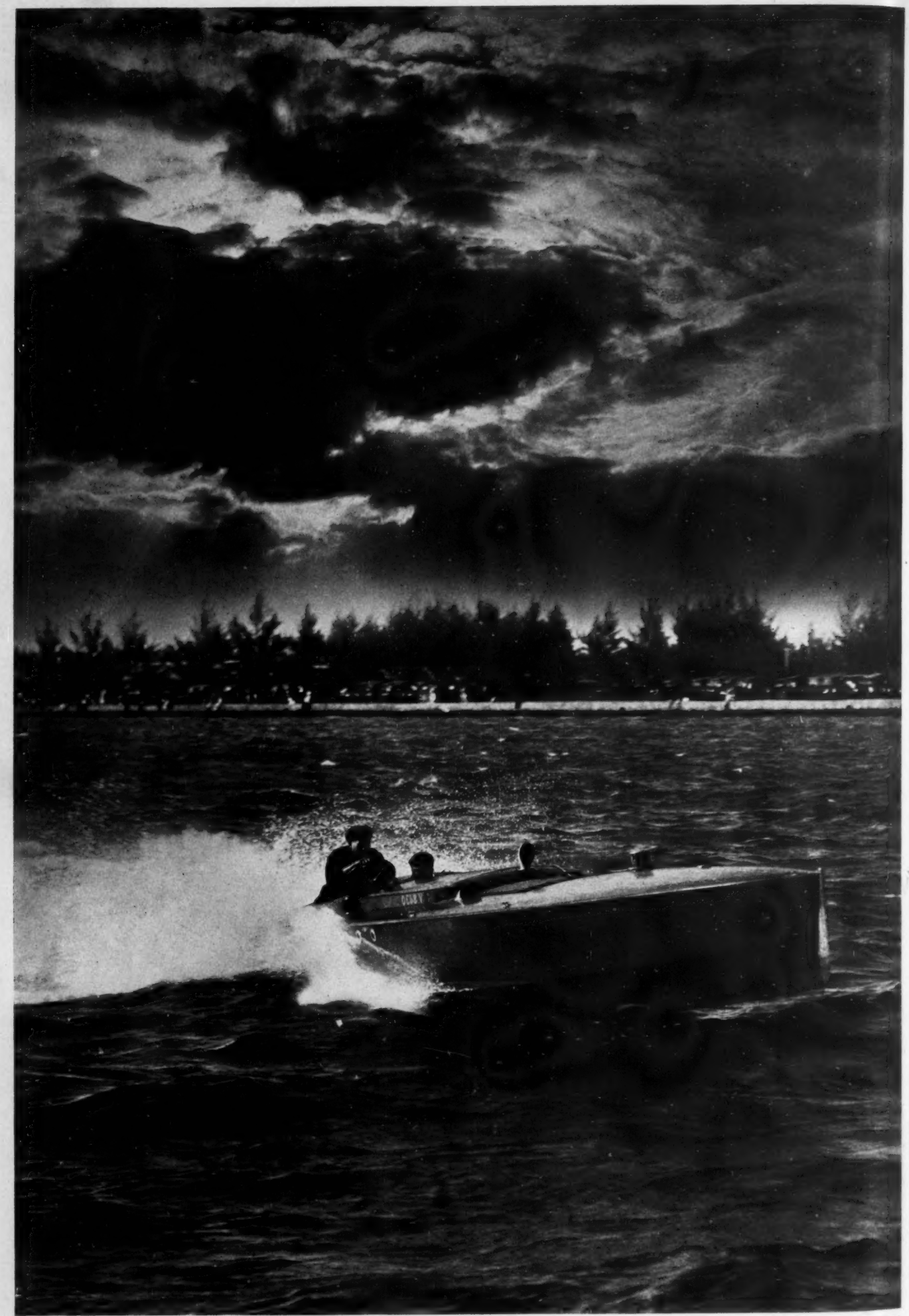


Photo by M. Rosenfeld

Hitting the high spots!

There is an exhilaration that comes only with speeds of 40-miles-an-hour in small boats. *Adieu*, owned by Webb Jay.

A Fishing Trip to the Western Banks on the Schooner Mayflower

By ROY W. PIGEON

PART II

Thomas Edison says we need but four hours sleep a night, but on a fishing trip one doesn't need any. Monday found the gale still with us, the same heavy, discouraging sea running but it looked as though the sun might possibly get through the clouds, which would be mighty cheerful as we hadn't seen the sun for a long time. The pumps were started every day to keep the water out of the hold and keep the schooner in as good trim as possible.

At noon the skipper took the sun and found we were in latitude 45° 43' and by sounding we determined our longitude and position on the chart. At 12:30 the sun came out brightly and the wind had the earmarks of diminishing. The skipper ordered one tub of trawls baited up and the crew jumped with delight to the hatches, lifted off the covers and hustled up the bait and hacked with glee the frozen squid and baited up a tub of trawls in short order.

At 1:30 the wind had eased off at least half and the glass gave indications of its clearing. "Two men to a dory! Ready!" cries the skipper. "Throw your anchor!" Down goes the first dory. We sweep by him and he is lost between two large seas. "Throw your anchor!" Down goes the second dory; and so we launch without mishap all ten dories in a rough sea, a seemingly impossible feat to one uninitiated. The skipper again is nervous, paces back and forth across the deck and seems to lose his old self in anxiety for his crew. The weather is getting better all the time, the sun has a warm tinge to it and in 40 minutes the signal is given to start hauling. Alongside they come with their catch, not very bulky but mostly good steak cod that bring the highest price in the market. The fish are dressed and put below and by soundings we decide to change our position to a little deeper water.

The cry of the skipper to bait up, at 4 A. M. sounded, and all hands got to work with a will. "Three tubs!" the skipper announces, the first real signs of a fish day since we left Boston on October 22nd.

Breakfast and, a short time later, a beautiful sunrise! The first dories dropped overboard just as the sun came out of the water. In 45 minutes the dories were setting trawls. The signal was given in an hour to start pulling the trawls and when all the dories were alongside and the fish stored aboard, we found that the catch aggregated 25,000 lbs., 15,000 lbs. of which was steak and market cod.

We succeeded this A. M. in getting all the water pumped out. The reason for the *Mayflower's* bad trim on this trip was on account of the 20 tons of ice and 5 tons of bait which was all put in the forward pens instead of aft, where it belonged, as the skipper was at home ill when this was done. The schooner now appeared to be in much livelier form, free of water, and the dories off her deck. Had we been in this trim during the gale we would not have had as much trouble in tacking ship. One thing that impressed me very much was the cleanliness of the fish when they were iced up. After the catch had been stored away the skipper ordered two tubs baited and although the boys were tired, as they had already done a good day's work, they went to work with a will, as of course it all meant money in their pockets, and I found many of the boys were married and needed every dollar they could make.

The cook was wreathed in smiles as he had a calm day to get ahead with his cooking, and the smell of the freshly made doughnuts would have revived the appetite of almost anyone. The crew took advantage of the doughnuts and "mug up" quite often. A cook on a fishing vessel, next to the skipper, is a perpetually moving man, for when he is not busy cooking below he has to be on deck giving the skipper a lift when the boys are off hauling trawls.

And so the first good day we have had wanes and a beautiful sunset approaches and a calm night and another good day is looked for. We are carrying a single reefed mainsail, foresail and jumbo.

The next day, Nov. 2nd, it was blowing hard again, the glass falling rapidly and weather very thick. During the night the watch reported a tramp steamer, close aboard, but there was no recognition from either as she passed off into the darkness. It almost looks sometimes as if they try to see how close they can come without hitting us. The wind is south, glass still falling and another gale is approaching. Part of the crew are baiting trawls while others are playing cards, trying to make the best of bad weather.

Fog shut in thick at 10 A. M. and at eleven o'clock we heard the whistle of an approaching steamer and our fog horn was set in action and a watch set forward for any emergency. The steamer passed across our nose too far to be sighted and soon passed out of hearing. At noon the mainsail was ordered in as the wind was blowing hard from the sou'west. At three o'clock it shifted to the east'ard and the fog shut in thicker than ever. At 9 P. M. the wind had apparently eased off but it left a three-way sea running that tossed us about all night like a cork stopper in a whirlpool in Niagara Falls. Slap, bang, goes the foresail from 9 P. M. until 5 in the morning.

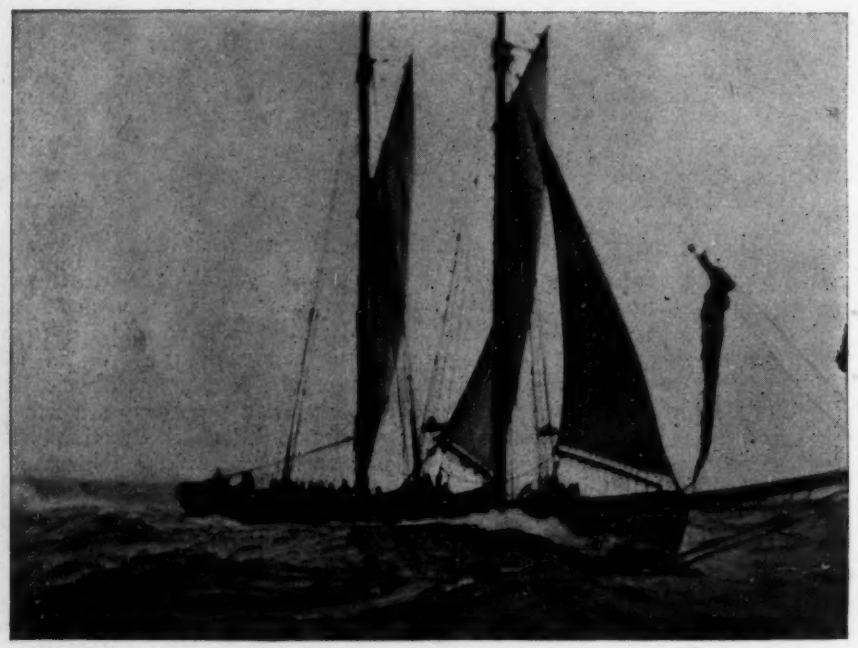
During the night we slatted three blocks to pieces and it is a wonder we had anything above deck at all. Even the crew acknowledge they were unable to get any sleep during the night. Fog was still with us in the morning and the wind had died completely. At 3 P. M. we drifted along almost in a flat calm. We rigged up a hand fish line and caught ten or twelve good sized fish.

At 8 P. M. all hands turned in and hoped for a good day on the morrow. However, we were all disappointed as a northeast gale was blowing. I think almost everyone was discouraged. The cook was grumbling at breakfast time, and well he might. His stove hadn't been flatways but a few hours since we left Boston. The crew overhauled gear again and smoked, but tobacco was getting low and the cigarettes were almost exhausted. Amos was on deck with his pipe upside down and when I asked him why he reversed his pipe he in-

formed me that the tobacco lasts longer that way. The skipper had a supply left but he would hardly lay the box down before some helping hand made use of its contents. A fisherman's crew, however, are very generous with what they have and will give you the shirts off their backs. Jerry asked Del if he would like a good sweater, saying that he had no use for it, and Del was delighted with it. His joy was short lived, however, for soon there was a demand of "Where in —— did you get that sweater?" from the real owner, and Del reluctantly turned the sweater back.

All hands kill time through the day as best they can. The crew say the first 100 years are the worst. The next morning comes and looks dubious. The skipper gives orders, however, to bait up, double up and set. Ten dories are lowered. "Set against the tide" the skipper cries as the dories depart. A curse from the skipper as they start to haul as he notes the first fish is a dogfish. "No fish today," he remarks, "but such is the life of a fisherman." Through the glasses I watch and now and then can discover a large cod being taken aboard and after our catch is all stored we find we have 8,000 or 9,000 lbs. to the good. The crew all have the same story to tell—that if it had not been for the dogfish we would have had a trip of fish. Grounds are ordered changed so our course is laid for the La Have banks, some 80 miles to the westward, as it is absolutely useless to set trawls again after the dogfish have struck.

Saturday, Nov. 5th, two weeks from Boston, without a trip of fish in the hold! A gray morning and not very bright for a set. The skipper was on deck early, however, ordered two tubs baited and at 7:30 A. M. ordered a set made. He was exceptionally nervous and I felt something was bothering him. I had not long to wait for the reason. Soon it began to breeze. The skipper observed the glass every ten or fifteen minutes while the weather was making up blacker all the while. "There they go adrift" cried the skipper as he threw the wheel hard down. Way to windward we could see a tiny sail which meant a trawl had parted and the schooner must pick up the dory and tow him back to the windward end of his trawl, as it was impossible to row a dory against the breeze that was now blowing. So three miles to windward we beat, taking the dory in tow and putting him on the other end of his gear.



A fisherman changing grounds on the banks, with jib triced up to keep it out of the water.

No sooner was this done than the captain cried that another one had gone to leeward, so off we bore and ran down and picked up another unfortunate fisherman, trying his best to row his dory to windward. Before we got him hooked back in position two other men had broken adrift from the trawls. The skipper, a bit discouraged, threw the wheel down and started after the other members of the crew and we finally got them all back in position. Fortunately the wind moderated, or probably others would have parted their gear and gone adrift.

In a short time now the sails began to go up and the skipper breathed a little easier, as he knew the trips are safely tucked away in the dory and they sail to leeward with a trip that netted 15,000 lbs. cod and haddock. It was a very hard haul for the men and they certainly looked tired as they came aboard, more or less discouraged from their strenuous efforts. A little dinner, however, worked wonders and up they came from the fo'castle smiling and went to work with a will, dressing and washing the fish. As I ask if it wasn't a very hard day for them, they all replied, "Oh, not bad, we are used to that." Captain Larkin, with a smile on his face came on deck and I know that his anxieties were over for that day. "Point her for La Have," he said, "west-no'west."

The sky darkened again very quickly and a so'west wind began to air up. Heavy puffs drove us along under reefed mainsail, foresail and two jibs—but soon the jib was ordered in. We were making steamboat time. The skipper glanced to weather and then all hands take in the mainsail and across the skyline the skipper catches a glimpse of a squall. Down comes the big mainsail. Haste is made to secure it, and none too soon, as the squall hits before we have the sail stops all secured.

"Suppose that came when the men were on the trawls, what would happen?" I asked the captain. "Cut adrift from their gear and make for the schooner before it hit would be their only chance," he replied. This is what a fisherman is continually subject to and it is no wonder that it requires men for this industry who are fearless and have iron constitutions. The jumbo is ordered in and with nothing on but the foresail we are traveling like a speed demon. For an hour the squall blew at its height and then began to diminish and haul to the west'ard. The jumbo is set again and the skipper gave orders to bend on the riding sail. The sun came through the clouds a short time before it set; it was a wicked-looking sky and a weird sunset with double banks of black clouds, every one of them looking as if some wind devil was in back of it ready to open up the bellows again. For an hour we sailed along under the three sails and then it commenced to blow again and the jumbo was stowed for the night. The glass had fallen from 30.4 to 29.6 in three hours,

so we rather expected a gale from the northwest and we were not disappointed; we got it.

At 9 P. M. the wind was screeching. We could hear the whistle of the heavy puffs tearing towards us and then they would hit. A heavy sea would smash and the spray would fly mast high. The water on the deck would be blown into small waves and then picked up in a sheet by the force of the wind. It was impossible to look to windward. Great balls of salt water were picked up from the ocean and if they struck one in the face they stung worse than a boxing glove.

At 11 P. M. the wind and sea reached their height. At midnight the brand new riding sail was split from top to bottom from the force of one of the heavy puffs that we were staggering under through the night. The skipper was on deck in a second and gave a hand to the crew in lowering it down and securing it. The skipper was always on the job when the least thing went wrong. I don't see how he ever got any rest. From the bunk inside the cabin the noise of the smashing of the seas was terrific—very like the other gale, with the exception that there was more force to the wind, but I must say it felt fairly secure behind 3" oak planking and 4" hard pine sheathing.

Sunday morning was a bright clear day, with a northwest gale in full force, but at 10 A. M. it diminished slightly and the jumbo was run and we jogged all that day with lashed wheel.

During the night the skipper ordered the ship tacked, as the wind had moderated and he wanted to pick up the land to get his bearings to locate La Have Banks for one more set before starting westward. Monday morning broke with light air and a diminishing sea. At 5 A. M. the skipper was on deck giving orders to the watch and at 8 A. M. all hands were up watching for the shore.

Soon we came in sight of land as we made out Cape La Have and Shelbourne, St. Margaret's Bay and other points; the rolling, hilly country looked good to us. All sail had been set and we drifted on through the chilly day. Snow began to fall as we tacked on and off shore. At 3 P. M. we sighted a schooner ahead of us with full mainsail, foresail and jumbo and with her engines working full power, undoubtedly bound for Liverpool, N. S., where she was putting in for shelter. Here was a chance to try the *Mayflower* out to windward and see what the old hooker could do. So we trimmed our mainsail a little flatter and informed the man at the wheel that we were now racing and to get all he could out of her. So with reefed mainsail, foresail and both jibs we started, at least 4 miles astern. In one long tack it took us just 90 minutes to even up with her, with a quarter of a mile at least to windward. All hands on deck were watching the race and several had their ideas as to just what the schooner was, but as we got abreast, all agreed that it was the *Ralph Brown* of Gloucester, that sailed against the *Elsie* in the trial race.

Off the entrance of Liverpool Harbor we ran over many mackerel nets and they slipped down under our forefoot and came up astern uninjured. Cook informed us at this time that the food was getting low; Amos said he was about out of gasolene and Dell, whose week it was to run the after stove, told the skipper that coal was getting low. It looked as if they were inviting him to go home. But we are on our way, however, as the skipper knows there will be no chance to fish in the morning. And so we glide by the lights on the shore as we beat to windward towards Cape Sable. The wind increases in force as we approach the cape. We have had nasty seas on every other point of sailing so in beating around Cape Sable we were to try out the seaworthy qualities of our schooner with a nasty sea dead on end. The jib was ordered in as it aired up; but we clung to our mainsail as we were bound home.

At 8 P. M. the mainsail looked terrific as we gaze up into the night and wonder how it is possible to keep sail on a craft through the conditions under which we are laboring. At 9 P. M. the wind was still increasing and all hands were ordered on deck as it is no longer safe to travel with mainsail. The crew grumble considerably, and swear, but tumble out of their warm bunks and get into their oilskins and rubber boots, scramble on deck, and get to work with a will to lower away the big sail.

The tide is running against the wind and we are battling against a 60-mile breeze. Somehow or other the seas, head on, come at us even larger than at any other time. Over the top of a big sea we go, then off the top into space with the sensation of going down in a fast moving elevator. Then we bring up with a smash that makes the whole structure tremble.

Dory sailing back to the schooner after hauling trawls.

From 9 o'clock until 2 in the morning we were battling these huge seas head on. At one o'clock the watch on deck was saying, "If James built a strong bow, we'll get home!" Steve Burns, one of the watch, a man of small stature but long experience in the fishing business, spoke of the time when the *Joseph H. Mesquite* was thrown down so that her mastheads were in the water, and one man was washed overboard in the gurykid, "Just about where we are now," said Steve. "I should judge from the pounding we are getting, this must have been the place."

Our course was altered at 3 A. M., after rounding Cape Sable, so we had a let-up in the head seas. By daylight Tuesday morning the wind had eased off and at 8:30 A. M. it had died down, the sea be-

(*Continued on page* 293)

The Winning Boat

By SAMUEL WETHERILL

HOW can I make my boat a winner? How is it that Smith won the series by a comfortable margin, when Jones, Brown, Green and the rest of us had boats of identical design and build—same hulls, same spars, same ballast and same sails?

With the hundreds of newcomers who are now enjoying the fascinating sport of small boat racing, these questions are asked again and again. In this series of articles I hope to throw some light on the subject, and shall endeavor to give the beginner some of the reasons for his failures, and point out the remedies necessary to make him and his boat a competitor for first honors, instead of being down amongst the "also rans."

I can already hear some of the experts grumbling, "You can't learn to sail a boat by taking a correspondence course." Quite correct. Nevertheless, you *can* learn a lot by reading, studying, and thinking, for I have seen people do it. And I firmly believe that the man who will read, study and think, will be several jumps ahead of the chap who fails to do so and who relies entirely on gradually picking up pointers as he goes along.

Knowledge, experience, and *hard work* are the three principal factors which help most to make a winner. I can't supply either the experience or the hard work, but I am going to try and pass on to you some valuable knowledge acquired from a number of years of experience in the racing game.

Conditioning the Hull

Let's start at the beginning. Take the hull of the boat first. It is essential that the outer skin be as fair and smooth as you can make it, so that the boat will slide through the water as easily as possible, eliminating "skin friction" as the sharks put it.

Smooth down the hull, topsides and bottom, with fine sandpaper wrapped in a block of wood. Fill all seams with putty of the proper consistency. After getting a fair, smooth surface, apply two or three coats of good racing paint to the bottom, allowing each coat to harden before applying the succeeding coat. Ordinary copper paint will not do—it cannot be smoothed and polished properly. For the topsides, the best grade of yacht white, or semi-enamel, should be similarly applied.

Your work has now only just begun. After the paint has hardened properly, go over lightly with fine sandpaper. Then rub *hard* with steel wool. The use of steel wool, with plenty of elbow grease mixed in, will result in a smooth, almost glassy surface, which will reduce skin friction to a minimum, and which is absolutely necessary if you want to get the utmost out of your hull. If you have any "pep" left over, you can finish the job by rubbing with old canvas or newspapers.

Hauling Out

The minute a boat begins to foul up her speed is affected. She must be hauled out, washed off with fresh water, and rubbed and polished again. If she has a good foundation of paint to begin with, more paint will not be necessary. And fortunately, the rubbing will produce the desired result much quicker now, and on all succeeding haul-outs.

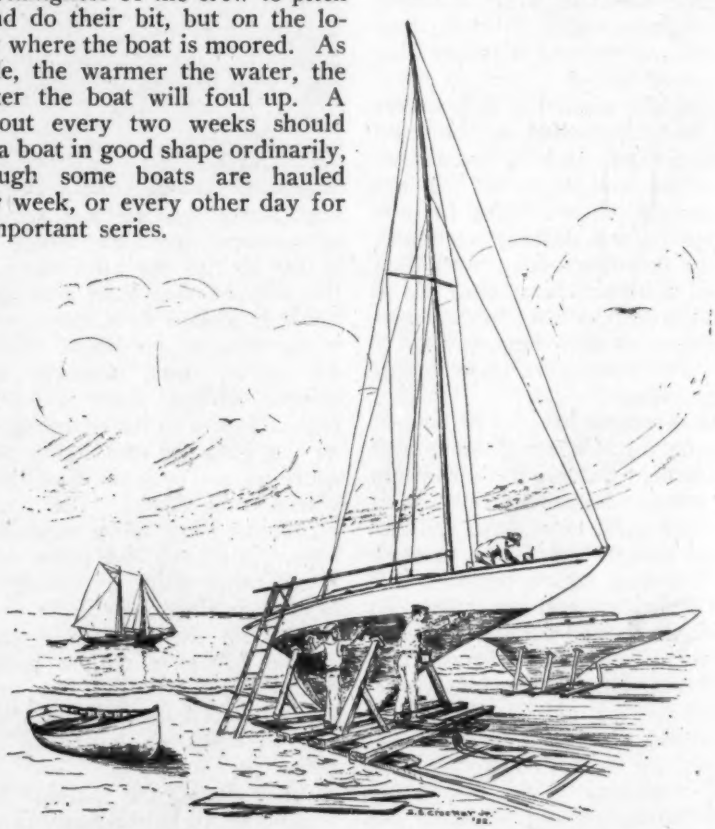
There is no set rule as to how often a boat should be hauled out and polished. This depends not only on the purse of the owner and the willingness of the crew to pitch in and do their bit, but on the locality where the boat is moored. As a rule, the warmer the water, the quicker the boat will foul up. A haul-out every two weeks should keep a boat in good shape ordinarily, although some boats are hauled every week, or every other day for an important series.

Sails

Having gotten the bottom shined up to our satisfaction, let us look next into the question of sails. If there is any one thing that is all-important in the make-up of the racing boat, it is sails. They are the sole source of propulsion. Sails are as important to the racing sailboat as the motor is to the racing motor boat. A poor fitting sail is a tremendous handicap. A fine setting suit of sails is an absolute essential in successful racing.

A properly setting sail is one that has a gentle flow, or draft, at the luff, gradually working into a perfectly flat after leach. As has been aptly stated by "Charley" Davis in his series of articles on sails, it approaches as nearly as possible to the curve of a bird's wing.

The amount of flow needed in a sail for any particular boat will depend on whether the boat is "stiff" or "tender," and whether the average winds met with are light, moderate, or strong. A stiff, or powerful, boat, should have a sail with more flow—more drive—than a tender one. The tender boat will "smother" too easily with a full-cut



It takes a lot of elbow grease to get a good racing bottom.

How the correct draught in a sail should look.

sail. A sail with moderate draft will be better. If light or moderate weather is the rule, a sail with plenty of draft is best. But if stronger breezes are expected, the sail should be cut much flatter.

Many keen racers have two or more suits of sails, one suit being cut full, the others being flatter, for use according to the weather on any particular day. Occasionally you will find a man who will invest in a suit of sails of very light material, cut much fuller than usual, for use only in the lightest kind of weather. I once borrowed a suit like this for an important series, and I must say that it helped a lot in the one race we used it in.

Care of Sails

If you are fortunate enough to get a good suit of sails, use every effort to preserve the shape that the maker has been to such pains to put there. When bending on a new suit of sails haul out on boom and gaff *hand taut* only. Then sail around in moderate breezes, and let the sail stretch naturally. As it stretches, you can haul it out further. But don't force it.

When through sailing, slack up your outhauls. This may seem a lot of trouble at first, but, like shaving in the morning, it is an easily acquired habit—and a mighty good one. If you leave your sails hauled out, they are pretty sure to get damp from the night dew, or possibly rain, and shrink. The head rope and foot rope shrink taut, while the body of the sail shrinks naturally. Then next day, the body of the sail dries naturally, but the head and foot ropes, which have shrunk hard taut, will now dry and stretch out—unnaturally—several inches. And a perfectly good sail may be badly stretched out of shape.

The same caution should be observed when reefing. Slack up your outhauls and shake out your reef as soon as you are through sailing—*always*. Reefing never improved the set of any sail—and it has ruined more than one. Many racing skippers prefer to drag whole sail in a hard breeze, and possibly lose that particular race, rather than risk ruining their sails for future races by reefing.

Generally speaking, hauling out on boom and gaff makes a sail flatter, which is what you want for a good breeze. Slacking up a bit will give you more flow, for light weather. You can also increase the flow by slacking up on lace lines on gaff and boom, and in very light weather you can take up on your topping-lift, or quarter lifts, just enough to take the weight of the boom and allow the sail to flow out into its natural curves.

In hoisting sail, haul away on throat and peak halliards until the sail is fairly well up, the peak a little lower than its correct position in relation to the throat. Then set up on the throat halliard until the luff rope is good and taut. After belaying the throat halliard, haul up your peak until you have two or three wrinkles up near the throat. You will have to find out the exact position by experiment. The more you peak up, the more flow you will throw into the sail. And vice-versa.

If you have a wire luff rope, you can heave away on your throat to your heart's content. But don't overdo it if you have a manila or cotton luff rope. If you do, you will soon stretch it to such an extent that the set of your sail is spoiled.

Battens

Battens are invaluable in preserving the roach in a well cut sail and in keeping the leach flat. Don't have them too long, or they will soon wear a hole in the batten pocket. See that they are securely tied in before hoisting sail, and remove them and stow them away before you furl for the night. Battens are easily broken—so keep a couple of spares on board. One more point—if you are going to hoist sail and dry out at your mooring, take the battens out first—for if you leave them in while your sail is slatting away for an hour or two, you may whip out one or more of them, and even if you don't the battens are pretty sure to wear a hole in the sail or batten pocket.

Spars and Rigging

Spars and rigging next claim our attention. Now, sails are cut to fit *straight* spars, except in the case of curved Marconi masts. Therefor, it stands to reason that if your boom bends unnaturally, or your gaff buckles, or your mast has a "hook" in it, your sails won't set well, regardless of whether they are properly cut or not. So see to it that your spars are straight—not only at the mooring, but under way, when they are doing their work.

A boom which looks perfectly straight from a broadside view may show quite a curve if you go up forward and squint along its length. And if you will lie down on deck, and look up your mast, you may be surprised to find that it has a "hook" in it which you never suspected before.

In the case of the mast, the rigging and spreaders must be designed and placed properly and the proper tension put on shrouds and stays to keep the mast plumb when *under way*. Most racing men keep their shrouds hand taut only; a few tighten them up until they are as rigid as iron bars, while others keep them quite slack. Try out different combinations, watch how they affect your mast, and judge by results. On the curved Marconi masts which have lately come into vogue, stays and shrouds should be so set up as to preserve the designed curve of the mast. This is a particularly difficult feat and is one argument used against the curved Marconi. It is a comparatively simple matter to see whether a straight mast is straight or not—but how many of us are able to judge a curved mast? And if the curve is out the least bit, your sail goes

out of shape, regardless of whether it was well cut in the beginning.

Buckles in gaff or boom can usually be remedied by adding a strop or bridle, or changing the position of the ones already there. Try out different combinations with temporary rope affairs, to be replaced with wire bridles when the proper length and position has been found.

A study of the sketches in the preceding articles on Sails, by C. G. Davis, give a good idea of what a well setting sail looks like and where the flow or draft should be.

Our illustration shows a sail thrown all out of shape because of buckling spars. This buckling can be remedied by arranging proper bridles as mentioned before.

And while we are talking of sketches, take a look at this one, showing the crew getting the bottom of their boat in shape. If your purse will allow it, of course you can have this work done in a shipyard. Otherwise it is up to you and your crew to haul your craft out on the beach, and get busy with the sandpaper and steel wool. It is hard work, to be sure, and probably you would much rather be out sailing, or playing golf or tennis. But if you really care about winning races, you will be well repaid for your sore arms, skinned knuckles, and sunburned shoulders —and the exercise will do you good. The loafer doesn't usually get far in the racing game, while the chap who works hard at it is rewarded by pennants, cups and glory.

Ballast

Many small craft have inside, movable ballast. The correct placing of this ballast has much to do with the speed of the boat, and can best be found out by experiment. Generally speaking, the best position is along the keel, or centerboard trunk. Let the ballast rest on the frames, not on the planking, and for a starter, place it so that the boat floats on her painted water line. Later on, you can experiment by moving it forward or aft a bit.

The usual theory is, that for sailing in choppy water it is best to spread out the ballast in a fore and aft position, without actually altering the trim of the boat. In sailing in more open waters, say off Marblehead or Newport, where the seas are longer, and of a more irregular character, the ballast is sometimes centered, or bunched together instead of being spread out fore and aft. The best way to find out the proper position is to try stowing it in different ways, and find out by actual trials which is best for the particular boat.

The same rules apply to the placing of your crew, or "live" ballast. In rough, choppy water, you can often gain a distinct advantage by putting one of your crew further forward than usual, to "hold her nose down." This applies particularly to boats of the "scow" type, with full sections forward. When reaching or running, with light sails set, many skippers keep their crews pretty well aft as light sails have a tendency to depress the bow, and make the boat "root." Occasionally a boat with full sections forward will act just the opposite—her bow will rise and her stern drag. Of course you would counteract this tendency by putting your crew further forward.

There is considerable difference of opinion as to whether, going to windward, it is better to have the crew "climb out on the rail" or crouch down low in the cockpit, keeping their weight as low as possible and doing away with some windage. It would seem as if on a beamy boat the weight on the rail would be more of a gain on account of the greater leverage, than on a narrow craft with deeper sections where you could get the weight lower, besides making a saving in the matter of windage. However, I know of a beamy Cape Cod cat, a champion in her class, whose crew never laid out on the rail, blow high or blow low, but kept low in the cockpit, with sometimes a man or two down in the cabin, lower still. And yet you will often see crews manning the rail on a narrow, deep boat. So try out both ways, and find out by actual tests which way your boat sails fastest.

Sails—How to Set and Trim Them

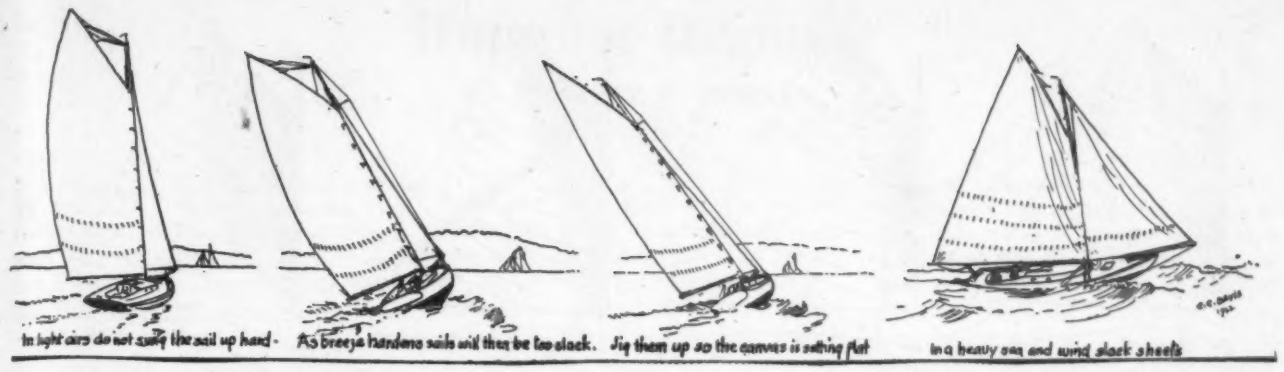
By C. G. DAVIS

TO get the very last ounce of push out of one's sails and the last fraction of a knot in speed through the water one has to be as much an artist at boat sailing as the musician is with his violin. Yachts are much like that musical instrument. Not only must they be properly tuned before using, but every change in temperature, in humidity of the atmosphere, in the condition of the water and the distribution of weights works a change for better or worse on a yacht.

Just the change from a dry nor'-wester off the land to a moist sou'easter off the sea will work a difference in the condition of a yacht's sails and those that haven't sailed do not realize that the skipper, as he putters about, slinging one rope here just an inch or two and another one there, is meeting the changing conditions so that his sails will work at their best. It is this knowledge and appreciation of the effect such little things have on a yacht's speed that makes that one yacht step out to the front in a yacht race. It is equally important to the cruising man to get the most drive out of his sails when making a passage, or to know how to properly care for them.

In the first place, a skipper should always see that his sails are properly set. If you are going into a race with a boat, get under way some half hour or so before the race starts and sail around to stretch your canvas a little. Most amateurs have to work all the week and only have Saturdays, or half a day Saturday, to sail, and it is a case of rush out to the yacht club and get up sail and start just in time to make the starting line before the class signal is given.

Rope halliards are very elastic and after the sails have been hoisted and the strain of the wind on the canvas has been upon them a short time you will find you can jig up and get considerable slack. Besides the halliards stretching, the canvas of the sail itself and the bolt ropes will swell and contract, after a week under a sail cover, or even over night with some of the damp night air upon it, and as it dries out it stretches. Many modern boats have wire luff ropes in the sail instead of manila, and have flexible wire halliards, that, when the sail is hoisted, stay where they are put. Of course there is some stretch even in wire rope, particularly when new, but it has such an advantage over manila it should be used on every racer no matter how small. It relieves the skipper's mind of one


In light airs do not swig the sail up hard - As breeze hardens sails will then be too slack. Jig them up so the canvas is setting flat In a heavy sea and wind slack sheets

constant anxiety and allows him just that much more attention to give to getting more speed by studying wind fluctuations and sail trimming.

Some skippers do entirely too much trimming, hauling in and slacking out of sheets, others too little. On a fluky day, when catspaws suddenly change the direction of the wind, be ready to let out or haul in sail quickly, but gently, so as not to jar or shake the sail. In very light weather it is a good plan to unreeve some parts of the main sheet and single up on the jib sheets, so they will render freely.

The time to trim sail is not when you are beating to windward, if you have a modern non-capsizable keel craft under you, but when you can lay a course or when the wind is free with a fair wind abeam or abaft of it. Then the man at the wheel devotes his attention to making a straight line course to his destination and the men at the sheets should shift the trim of the sails to get every advantage out of the wind's fluctuation.

When beating to windward there is only one correct point at which the sails should be trimmed to get the most speed out of the yacht. What this point is, is a question everyone wants to know, and as I said in my previous article this is something that changes with every different design of hull, every different shape of sail and is even influenced in identical boats by the difference in weights carried and its disposition along on the hull.

The theory of sailing is as simple as A. B. C. but its practical application is as varied as the words in a Webster's dictionary. The reaction of the wind's force through various angles is what pushes the yacht forward through the water, just as a bird by flapping its wings up and down sails ahead through the air. It doesn't paddle itself along flapping its wings in the direction from its head to its tail, and yet see the speed that some of them attain. Aeronautics has developed from a study of birds wings. The heavy birds have broad wings, the lighter and fast flying birds have the narrow wings, but all attain their forward motion from the concavity just behind the wing bone that spreads the feathers; and that hollow or concavity has been closely copied in the wings of aeroplanes and is what yachtsmen have tried for ages to copy in their yachts' sails.

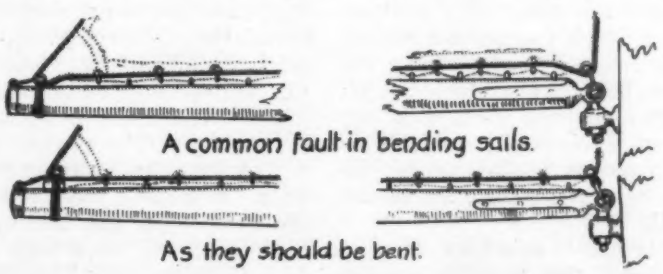
But canvas is a fluctuating medium to attain this result with, and that is where nine-tenths of the art of sail setting comes in. If one puts wings on a bird shaped like some of the sails we see hoisted on yachts that poor bird would have a hard time flying. Some sails are, in section from mast to after leach, only a bag, some have all the bag at the wrong end, the after edge, and when the peak is not hoisted up some sails have a surface that forms two bags with a ridge between. Perfection cannot be attained in sails because in a hard wind you want heavy canvas and in a calm the thinnest of cloth is the best, and as these two extremes can never be incorporated in one sail, the best we can do is to pick out the weight of canvas experience has shown us to be the best for the average weather conditions where the yacht is to sail.

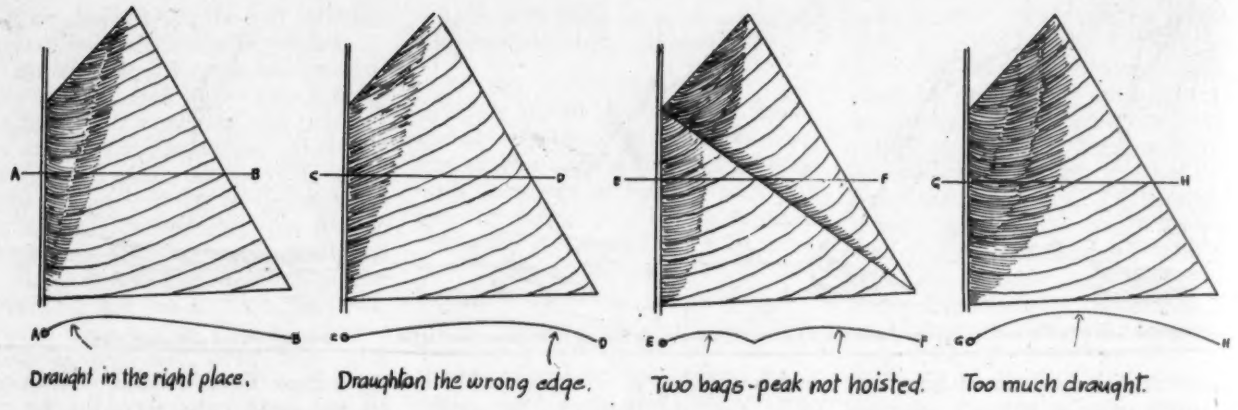
Take as an illustration a yacht, say a New York "thirty." If, in an all but dead calm day, the jib is lowered and a silk balloon jib is set, the yacht sneaks ahead at a fair speed while with her heavy jib she only just moved. Now let a stiff southerly come up, as often happens on Long Island Sound, and you see that yacht's crew quickly douse the light, silk sail and set the heavier cloth working-jib, because the force of the new, stronger wind puts too much strain on the light silk cloth and pulls it out of shape.

This same principle is what you should aim for in your mainsail. In light airs do not swig it up too hard and flat, let it hang loose, even to taking the weight of the boom off the canvas by setting up on your topping-lift or weather quarter-lift. This will let the gaff swing off. As the breeze hardens set up on your halliards and trim in the main-sheet as well. Put a tension on the canvas of the sail to pull it taut enough to give a very flat parabolic curve from mast to leach, as the harder it blows the flatter the sail surface should be.

Right here is where we must stop and consider what kind of boat we are supposed to be sailing, for different shaped boats demand different kinds of treatment. A fin-keel boat, like the old Herreshoff 21-footers, a sharp narrow and deep hulled craft like the old *Sally IX*, a lean hulled six-meter racer, or an able, full bodied craft like a N. Y. "thirty" will stand their main-boom trimmed down almost amidships, say one point off the fore and aft center line of the yacht, and yet in a stiff breeze they will walk out to windward beautifully.

Now take a Cape Cod catboat or one of Capt. Webber's or Hanley's flat, full-bodied sloops and you have an entirely different problem. They will not stand being trimmed within half a point as close as the others. You can't expect them to point with sharper lined yachts, but, if one has the nerve to lay these boats off and not try to point with the sharper modeled craft, but drive them hard, the model itself will crowd out to





windward and she will hold her own, if not actually outsail the narrower craft. Such boats require more draft or curve in their sail, just as a cargo boat requires more blade area on its propeller than a light yacht does, and they would be dead as a door-nail if fitted with a sail cut as flat as one used on the *Sally IX*.

But with a good draft and trimmed off broader to a wider traveler across the stern, and with the main sheet swigged down hard to keep the gaff in and all the canvas to its work, that type of craft has yet to be beaten I have found, as far as my yachting experience goes.

Here again changes in conditions will call for a decided change in trim: You kill a yacht's speed by flattening the sails too much in light airs. You want your canvas trimmed in flat in hard winds and fairly smooth water, as just stated, but when it begins to blow "real wicked" and a sea gets up that makes the yacht pound and makes her labor hard in her endeavor to forge ahead, then you have to slack out sheets again. Then it is not a question of pointing, it is getting more push out of your sails to give the yacht energy enough to jump and splash and yet keep going ahead, otherwise she will make so much leeway as to fall behind the other yachts that do ease sheets. Slacking off sheet will start the luff of your mainsail fluttering, but let it—that is not the part of your sail that is working when it's blowing half a gale. It is just the two after leaches of the mainsail and jib that are doing the pushing. That is why you want those two surfaces slacked off so that they form an angle of a couple of points with the keel line fore and aft.

You know how thin a fish's tail tapers off to and how delicate the end of the feathers in a bird's wing are, well that should be object lesson enough for you to realize that the after leach of your sails must be a true, smooth, even surface so the wind can escape freely off it. That is why battens are put in the after edge of sails (that, and because of the desire to get as much sail as possible the sail is cut with a roach or outward curve from gaff end to boom end) and why sailmakers put in a cotton line known as a draw-string. Many yachtsmen consider this draw-string a nuisance and cut it off or make it fast and never use it. But it is put there for a purpose. Sometimes the after cloths in a mainsail become unduly stretched so they are slacker than the rest of the sail and the after leach begins to tremble and flap. Because this has happened in the sails of one or two yachts that were very fast some say that it is a good point; it shows that the wind is flowing freely off the sail, they argue. If it is, it is no help to have those cloths fluttering and throwing a vibration into the working part of the sail, for every flutter takes wind power to produce it. It is a hindrance, and that is just where the draw string is an advantage. Pull on it gently and you will find those restless cloths will "go to sleep," as we say, and all the sail will be working to better advantage.

True, if you pull the draw-string too tight the after-leach of the sail has a tendency to make a bag that is far more detrimental to the speed of the yacht than the fluttering. But you don't have to overdo it to that extent, if you use good judgment. Sometimes the canvas is so out of shape that to stop the flutter you have to pull the draw-string so the sail bags. If so, it's up to you to keep the draw-string tight and sail the yacht, when you are not racing, and this relief will often bring the sail back into perfect shape again; the cloth will strain itself back into an even tension all over. This same treatment applies to the jib and the cure is the same as for the mainsail.

This brings to mind an abuse in bending sails that is so common it is necessary to warn against it. This is that the cringles at the corners, more particularly at both inner and outer corners of the mainsail at the boom and the after clew of the jib where it makes fast to a jib-boom or club, are pulled down onto the boom out of line with the rest of the bolt rope on the foot of the sail. Just because there is an eye-bolt and a shackle fitted there most yachtsmen pull the tack of the mainsail all out of shape to use it. This does more harm to the luff and the after leach of the mainsail and jib than one imagines. I generally slack up the foot lashing and jam in a block of wood that holds the after clew up off the boom on a line with the rest of the foot of the sail. "A mere trifle," some yachtsmen will say, but it only takes a trifle at a critical point to work great injury, and you can't be too careful with the after leach. The luff can be tight or slack and not harm the sail much, but not so with the leach.

Summed up, all this shows that there are three important things to bear in mind in setting sails. First, to hoist the sail properly so that it will keep its shape a true fair curve with most of the draft at the mast, gradually flattening out to a flat leach; second, to get the tension on the sail to suit the strength of the breeze; and, third, to trim the sails at an angle with the fore and aft line of the yacht to suit the wind and, particularly, to suit the model of the boat.

Light sails are made of lighter canvas, sheeting or silk, to be used in light breezes and are: the club-topsail or sprit-topsail (the working topsail while not a lower-sail is considered ordinary canvas, as is the working jib topsail), the balloon jib, balloon staysail and spinnaker. There are, besides these, which are the sails generally allowed by modern racing rules, many others, such as a "ring-tail," that is set from the ends of the gaff and boom like a studding-sail on a ship and ex-

(*Continued on page* 311)

Running Regattas

By HOWELL C. PERRIN
Chairman Regatta Committee
Larchmont Y. C.

RUNNING yacht races, as "Teddy" said of being President of the United States, is "bully fun." That is, provided one loves yachting, enjoys running things and is unselfish enough to forego the keen pleasure of racing in order to provide a good day's sport for the other fellows. The work is difficult enough to make it interesting and there is an abundance of satisfaction in having run off a successful regatta where everything worked smoothly, with a large fleet to handle and, not least, a steady, full-sail breeze.

Of course, there is plenty of hard work and there are many anxious moments and, occasionally, some annoying incidents; but on the whole the pleasure outweighs the troubles and the latter fade from the memory when spring comes around and the yachts are going into commission for another racing season.

This article is written just before the season opens with the idea that many Regatta Committee Chairmen who have not had much experience may be glad to read some of the lessons that have been learned through an experience covering about twenty years in the club which gives the most regattas and starts the largest fleets in the Yacht Racing Association of Long Island Sound and which, for some forty years, has made a record for running the best yacht races that zeal, experience and money can produce. A large textbook could be written on the subject, but it is possible here only to cover briefly some of the matters that seem most important.

Preparing for the racing season includes the making up of a mailing list which should contain the names and addresses of all owners of racing yachts enrolled in recognized yacht clubs within sailing or towing distance, with name, description and classification of each yacht. To these should be added the secretary and the chairman of the regatta committee of each of these clubs and the yachting editors of the newspapers and magazines that publish yachting news. Each one of these should receive a circular of the race and each owner an entry card also about two weeks before the regatta.

A suitable committee boat is absolutely necessary and by suitable is not meant any yacht that can be borrowed for the day of the regatta and which is not under the sole command of the committee and which is likely to be damaged. The committee boat should be large enough to have a roomy upper deck at least eight or ten feet above the water, so that the committee has an unobstructed view of the fleet, with plenty of hoists upon which the signals may be seen from every direction, and a good whistle with which to give the signals. It should have a pilot house or similar shelter in which to make up the racing sheets, and as mentioned above, it should be entirely under the authority of the Regatta Committee. Of course, all mark boats, signals, flags, etc., used or required by the association rules should be overhauled and repaired or replaced.

The circular of the race should be very carefully prepared as to matter and wording, so that instructions shall be clear and complete. Otherwise misunderstandings will occur and protests may be difficult to settle. The circular should contain the following items: name and location of the club, date of the regatta, what classes and clubs are invited, where entries should be sent and date of closing (usually two days before the regatta), form of entry (card should accompany circular), official rules under which the regatta is conducted and any exceptions or special rules, signals to be used, such as postponement flag, etc., starting times, the courses and signals indicating them, grouping of classes to sail each course, hour of high water or low water, number of prizes given and names of Regatta Committee. The Yacht Racing Association of Long Island Sound has just approved a standard form of circular which covers about everything.

On the day of the regatta the committee should be ready early and at the starting line with all equipment at least a quarter or half an hour before the time for setting course signals. The only excuse for postponing a start is unfavorable weather, and delay for any other reason is most annoying and discouraging to the fleet.

Selecting the course is the first thing to do and this is the critical moment of the day, as the success of the regatta depends upon the direction and distance of the course more than on anything else. Races are won or lost in the windward work and a course without a good beat will ruin an otherwise perfect day for everybody. If there is no true breeze in sight it is better to postpone the start and wait until you can select a satisfactory course. With a late afternoon start in midsummer you often have to "guess the weather" and hope for the best; but the committee that picks a bad course with a steady, true breeze had better not land at the club house after the race.

After the course is decided upon the starting line should be laid out. It should be approximately at right angles to the first leg of the course, long enough to not cause crowding but not so long that racing numbers and signals are difficult to distinguish with the naked eye.

Having set the course signals (at least five minutes before the warning) and established the line the race is ready to start and the committee must know its job. It cannot be too strongly emphasized that a definite method of taking times should be adopted and strictly adhered to regardless of the size of the fleet. The method then becomes almost automatic and there is less likelihood of the machinery breaking down under the strain of an extra load or disturbing incidents. The method adopted many years ago by the club referred to above, with improvements added from time to time, and which the writer has used in starting over ten thousand yachts, seems to be the most efficient system in existence and has been adopted by many clubs.

The chairman of the Regatta Committee does not attend to any detailed or manual work but keeps his attention on everything and everybody on the committee boat and around the fleet. He gives all orders, makes and answers nearly all hails, calls off the racing numbers of yachts starting and finishing, and makes such "snap" decisions as are necessary. He must keep track of the starting times of all classes, recall yachts starting too early, try to arrange races for yachts whose competitors fail to appear, answer a multitude of pertinent or fool questions, see that everyone is on the job, keep the line clear of yachts whose preparatory signal has not been set or who have

finished, keep cool and cheerful and, without the aid of a periscope, get the number of every yacht. As the responsible head of the committee he must make the final decision as to selection of courses, postponement of the start, calling the race off, shortening the course, etc., etc. He may appear to have a soft job, but if he is as conscientious as he should be he will be the most tired man on the committee or in the fleet after "bossing" a regatta of between 60 and 150 yachts in fifteen to thirty classes.

The next important member of the committee, vocally at least, is the man assigned to the clock. He must keep his eyes on the clock, or his mind on the time, continually from the setting of the course signals till the last starting signal, and at the finish he must be ready and count seconds for all finishes. "Counting the clock" is not easy and it takes considerable practice to achieve accuracy and reliability. The best timepiece for timing yachts is a ship's chronometer with a second hand that marks half seconds. The hands, figures and divisions are easily distinguished and the half-second rhythm is the most readily acquired. The best method of counting for the starting signals is to give warnings of the "time to go." For instance: if the warning is to be 12:00 noon, at 11:58 he should *shout* "Two minutes"; at 11:59, "One minute"; at 11:59:30, "Thirty seconds," then "Twenty seconds" and "Ten, Nine, Eight, Seven, Six, Five, Four, Three, Two, One," followed a second later by the gun or blast of the whistle. The whistle is more reliable and should be blown by the "clocker" himself—taking hold of the cord before he announces "Thirty seconds." This method is used for all starting signals except when each signal is to be lowered thirty seconds before the next one is set. Then, after "One minute" (for the 12:00 o'clock warning) at 11:59:25 announce "Stand by to lower"; at 11:59:30 "Lower," then "Twenty seconds," etc., as above. This lowering of signals, by the way, is of doubtful value and some experts think it harmful, but it is a rule of the Y. R. A. and is followed by the clubs on Long Island Sound.

The setting and lowering of the signals should be done by a member of the committee unless the club is fortunate enough to have a boatman who has been trained and is familiar with the club's set of balls, letters, numbers, or what not. In either case the member should oversee the job, and it should not be left to a willing guest. He should repeat back all the warnings of the clock man up to "Twenty seconds."

The member next in responsibility to the chairman is the one who records the racing numbers and times and writes up the "sheet." His duties require brains, alertness and reliability. He should be provided with a note book of the pocket variety, not over four inches by six, in which he should note in rotation everything that occurs, from the official compass direction and velocity of the breeze, and what courses are signalled, down to the time of the last boat to finish. He should note every incident, fact or bit of information that might affect the record of the race or that might have a bearing on any protest or disqualification, any change of weather conditions, etc., and the time of each occurrence.

The keeping in rotation of individual starting times is not necessary with the "one gun" starts in common use; but it is the only known method of taking finishes by which it is possible to avoid inaccuracies or to check up and correct errors.

The fifth member of the committee can be kept busy handing out circulars to late comers, taking "post entries," standing by the recall ball and helping the chairman and the recorder.

After all yachts have started the line should be changed, if necessary ready for the finish. This should be at right angles to the last leg of the course, but it need not be quite as long as the starting line and a shorter line is better in many respects.

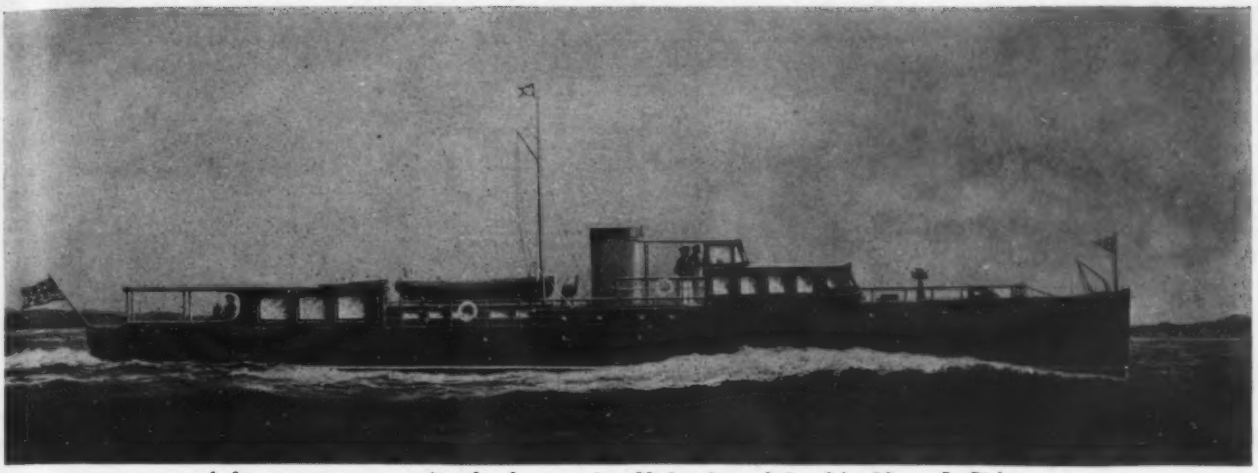
The chairman can (and will) now heave his first sigh of relief and get ready to take finishes. The recorder, if he is wise and wishes to get through in time for dinner, will get very busy and write up his "sheet" with the numbers, names, owners and starting times. The other members, except the chairman, should assist him. The chairman will have his mind occupied speculating whether the breeze will hold out or whether the "twice arounders" should be stopped at the end of the first round, etc., etc., and watching for the first finish.

Taking finishes is somewhat different from the method at the start—in fact it is almost the reverse. The chairman watches the line and as a yacht approaches he orders "stand by for R 10," for instance. At the first command the "clocker" announces "4 hours, 10 minutes," for example, and watches the second hand of the clock; at the command "count" he counts out loud the seconds in regular rhythm and sequence, e. g. "Twenty-five, twenty-six, twenty-seven," etc. As the yacht crosses the line the chairman announces "R 10—Time." Here and now is where the recorder shows his mettle as he must keep one ear on the seconds being called by the clock man and the other on the chairman's words so that when the latter shouts "Time" he catches the right second and records in his note book "R 10—4:10:27." The next finishes may be "Star 3—4:10:31"; "N. Y. 6—4:10:37"; "V. 7—4:10:45," and the little book shows them to be the first boats to finish in their respective classes, even if an error is made in the exact time. The recorder gets his ears trained to listening to two things at once and then mistakes are rare even in very close finishes.

The clock man should continue counting until ordered to "stop counting," as there may be several yachts close together and it is dangerous to stop. In one of the record finishes at Larchmont the man at the clock (now a Presiding Justice of the Appellate Division) counted consecutive seconds for over three minutes. Yes, he did breathe, but he did it between seconds. And confidentially, he's about as proud of that performance as he is of his decisions from the bench. On that day with a fleet of about 140 sail, there was a flat calm covering a square mile around the finish line, which gathered in about half the fleet. When the sou'wester came along they all tried to finish at once.

The timing system just described was put to the supreme test in that finish and it stood up under the strain. It is advisable, however, when finishes are thick and fast, to have the two other members check the recorder. At the command "check," one writes all the racing numbers as called by the chairman and the other puts down all the times as caught from the clock. By matching the two columns any omission by the recorder can be discovered and corrected. It is a good plan to have another helper watching the racing numbers as some may be obscured by the sails at the instant of crossing the line and the chairman cannot get all of them. The recorder transfers the finishes from the note book to the large racing sheet as he finds opportunity, and if he has exceptional luck may go ashore with a completed record.

In closing, a few points should be mentioned briefly or emphasized. Not only should the regatta be started on time but every signal



A large express type cruiser for ferry service, 99 feet long, designed by Henry J. Gielow.

should be set, every whistle blown and everything else done with promptness, accuracy and precision. Hundreds of eyes are watching the committee boat, stop watches are being set and starts are being timed from the ball or whistle and even one or two seconds may cause a recall or a needless tack. The atmosphere of the committee boat should be dignified and businesslike, and no hails should be made or answered except by the chairman or by a member instructed by him. The discipline should be firm, though not harsh, as the fleet must be kept under the control of the committee. Snap disqualifications, however, should not be made, especially at the start, and no yacht should be ruled out or otherwise penalized without fair warning; but any yacht that deliberately disregards the Regatta Committee's warning should be promptly but fairly punished, regardless of her size or of who owns or sails her. It should be kept in mind at all times that the object of yacht racing is sport, that rules and regulations are provided only to insure to every participant his fair share of pleasure and safety, and that the regatta committee is only there to carry out this object. It is esesntially a "gentleman's game," so be cheerful and courteous, know your job, including the racing rules, do your best, treat everybody alike, and don't expect to be inordinately praised. If nobody kicks you may safely infer that, thanks to the regatta committee and the weather, it has been a perfectly successful day.

A Large Express Cruiser for Ferry Service

A type of express cruiser that has been popular for some time past for use as a fast ferry between the owner's summer home and his business office is shown in the accompanying plans by Henry J. Gielow, Inc. She is also adapted for day work in Southern waters.

While in the past the attempt has been to secure extremely high speeds of over 30 miles per hour, it was the designer's intention in preparing these plans to keep the speed down to 20 to 22 knots per hour, so as to eliminate the extreme vibration and enable the builder to use heavier scantlings in the hull construction. The arrangement as shown in the plans can be modified so that an additional stateroom can be obtained, particularly where extreme high speed is not required.

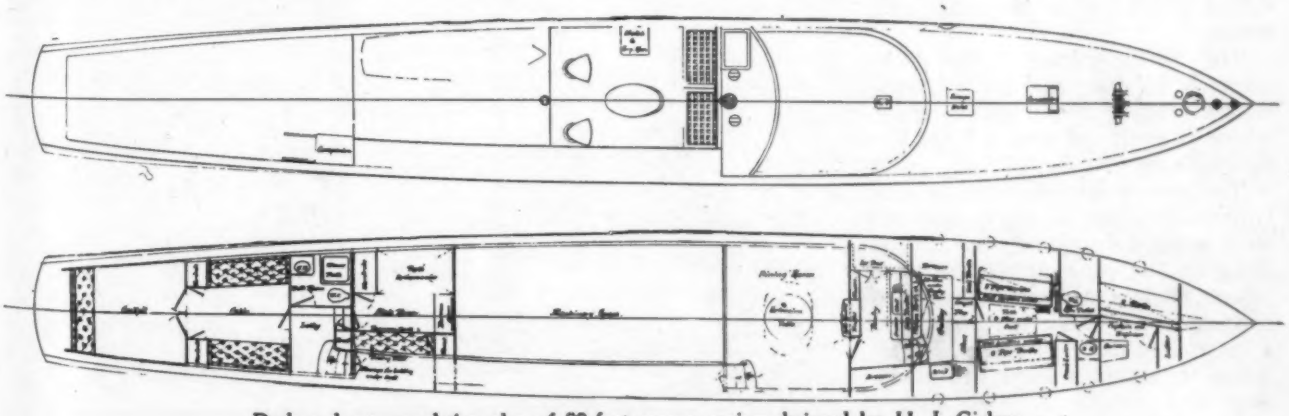
From the accommodation plan it will be noted that the dining saloon is forward with a communicating passage to the after cabin. In the after portion of the vessel the owner's quarters provide for a double stateroom with bath adjoining, lobby, lounging cabin and cockpit. The cockpit and lounging cabin are so arranged that they can be thrown open, making practically one compartment all on the same deck level. In the crew's quarters accommodations are provided for six men.

The dimensions are: Length over all, 99 feet 6 inches; load water line, 97 feet; beam, 13 feet 6 inches; draught, 4 feet 6 inches.

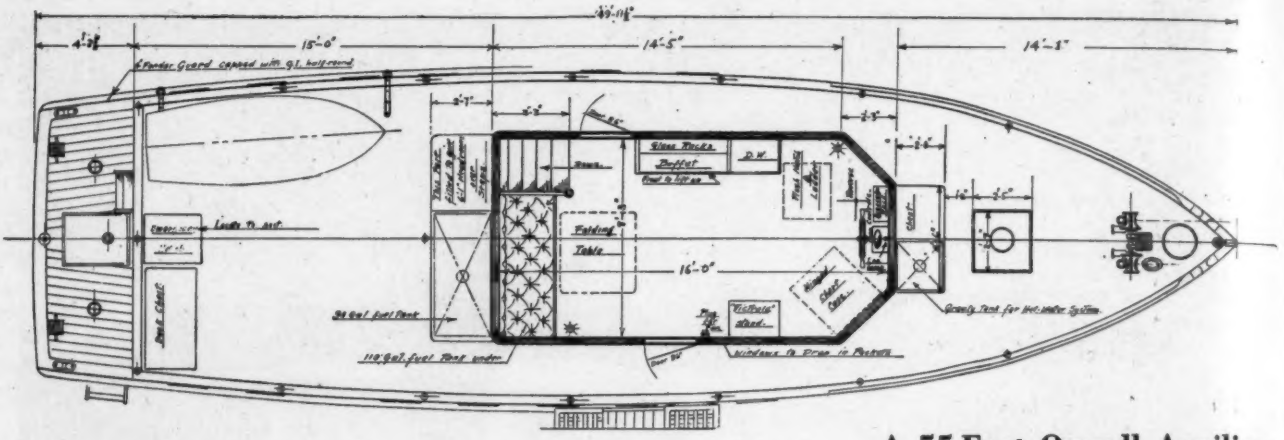
A 50-Foot Houseboat Cruiser

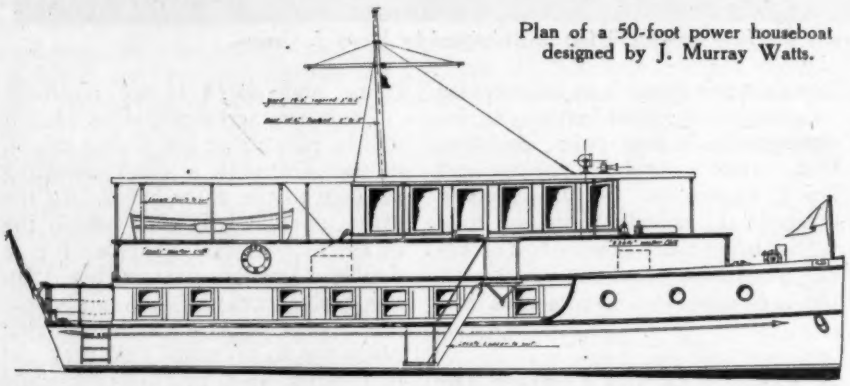
An attractive 50-foot houseboat cruiser that is capable of taking her owner anywhere through the diversified cruising grounds along our Eastern sea-coast, is now building for Mr. Louis H. Strouse of New York by the Smith & Williams Co., from designs by J. Murray Watts.

Although the dimensions are only 50′ x 14′ x 2′ 10″, she has a remarkable amount of accommoda-

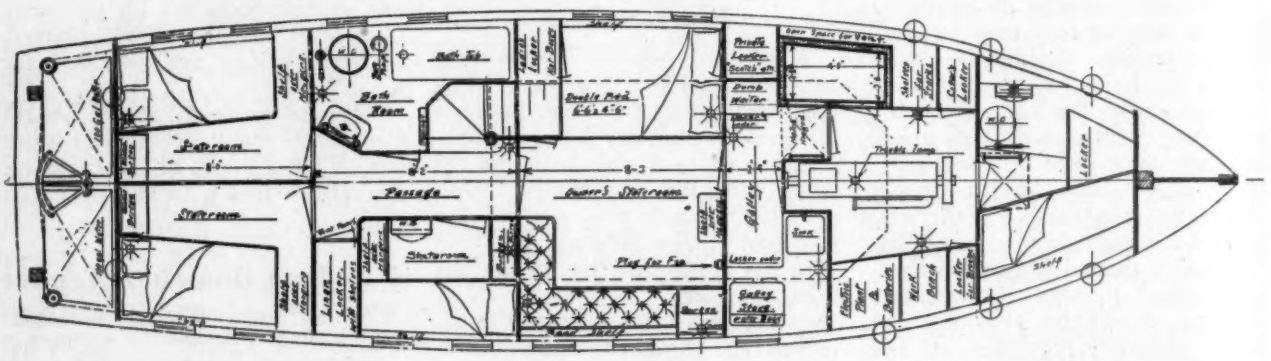


Deck and accommodation plan of 99-foot express cruiser designed by H. J. Gielow.





Plan of a 50-foot power houseboat designed by J. Murray Watts.



A 55-Foot Overall Auxiliary Schooner

There is no question of the growing popularity for cruising of a wholesome, able, fisherman type schooner. We predict that this type of vessel will displace the semi-racing type of cruiser which has been in vogue for the last twenty years, and that anyone who goes to sea in a boat built on fisherman lines will never go back to the lean, narrow, over-sparred boat of light displacement and short lateral plane that has heretofore been so prevalent.

Here are the plans of a new boat

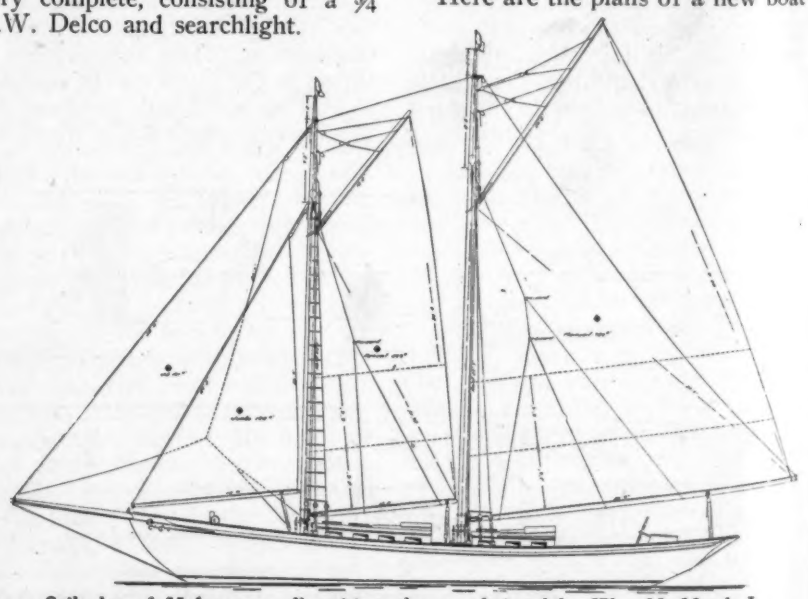
tions, which have been obtained without crowding.

There are four staterooms, the owner's room being 8' 3" x 13', with a full-size double bed besides a sofa, a bureau and closets. The three other staterooms are luxuriously fitted. The bath-room is conveniently arranged and is fitted with a full-size tub, with hot and cold water.

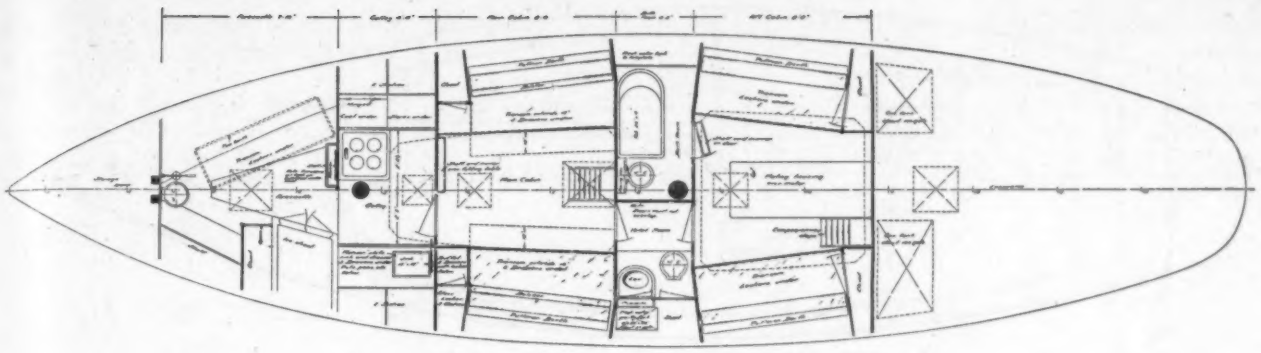
The dining saloon in the deck-house is 16' long and has a dumb-waiter leading to the galley below, which is equipped with a large ice-box holding 600 lbs. of ice.

The owner intends to take long trips on this boat, so she is equipped most completely, among her fittings being a wireless telephone, two power tenders, a complete outfit of rods and guns and everything from a Victrola to electric toasters. (This going to sea is a hard life nowadays)

The engine is a 6-cylinder Sterling, started and controlled from the wheel. The electric plant is very complete, consisting of a ¾ K.W. Delco and searchlight.



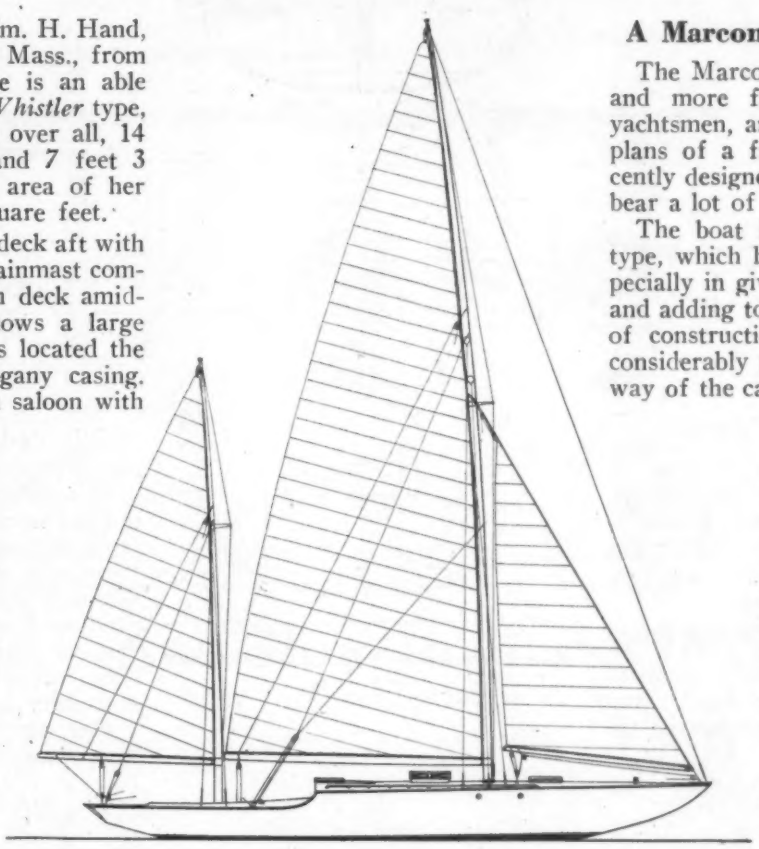
Sail plan of 55-foot over all cruising schooner, designed by Wm. H. Hand, Jr.



Accommodation plan of 55-foot over all auxiliary schooner.

built this winter by Wm. H. Hand, Jr., of New Bedford, Mass., from his own designs. She is an able little schooner of the *Whistler* type, 55 feet, 4 inches long over all, 14 feet 2 inches beam, and 7 feet 3 inches draught. The area of her lower sails is 1,460 square feet.

The boat has a flush deck aft with two deckhouses, the mainmast coming up through a flush deck amidships. The layout shows a large after cabin in which is located the engine under a mahogany casing. Amidships is the main saloon with transoms and folding Pullman berths on either side. Between these two compartments is a bathroom on one side opening from the after cabin and a toilet room on the other side, opening from either cabin. There is a large well appointed galley forward and a foc's'le, with a pipe berth, transom and toilet.



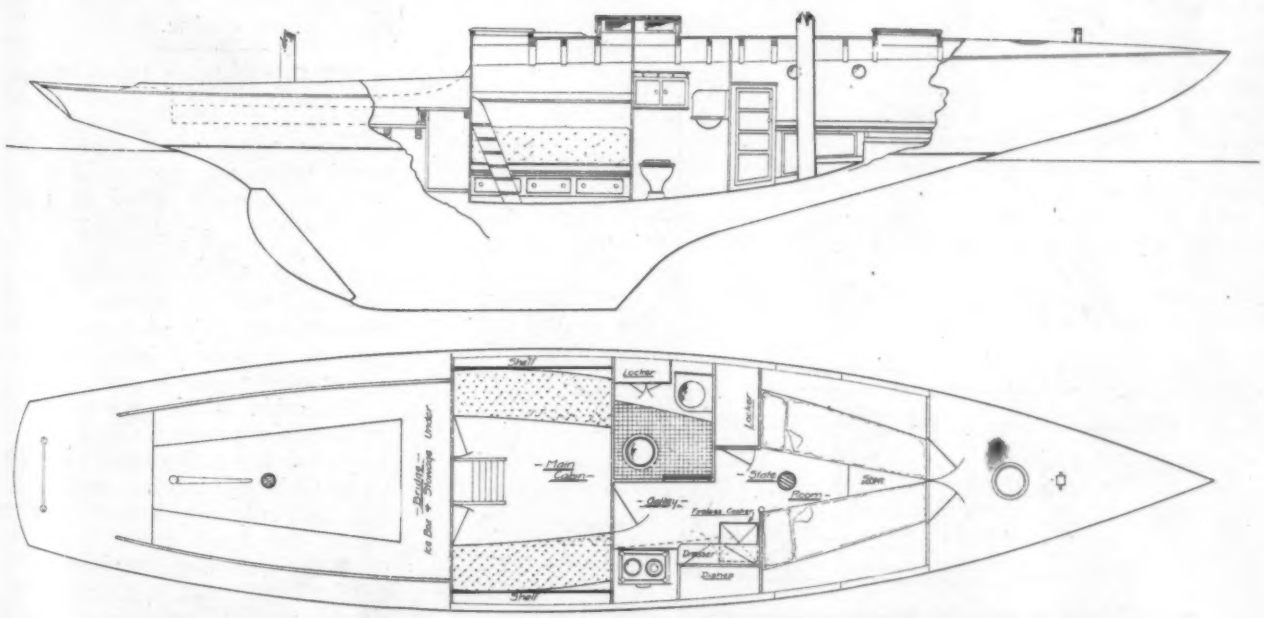
A Marconi Cruising Ketch

The Marconi rig is finding more and more favor among cruising yachtsmen, and for this reason the plans of a fast cruising ketch recently designed by E. I. Schock will bear a lot of studying.

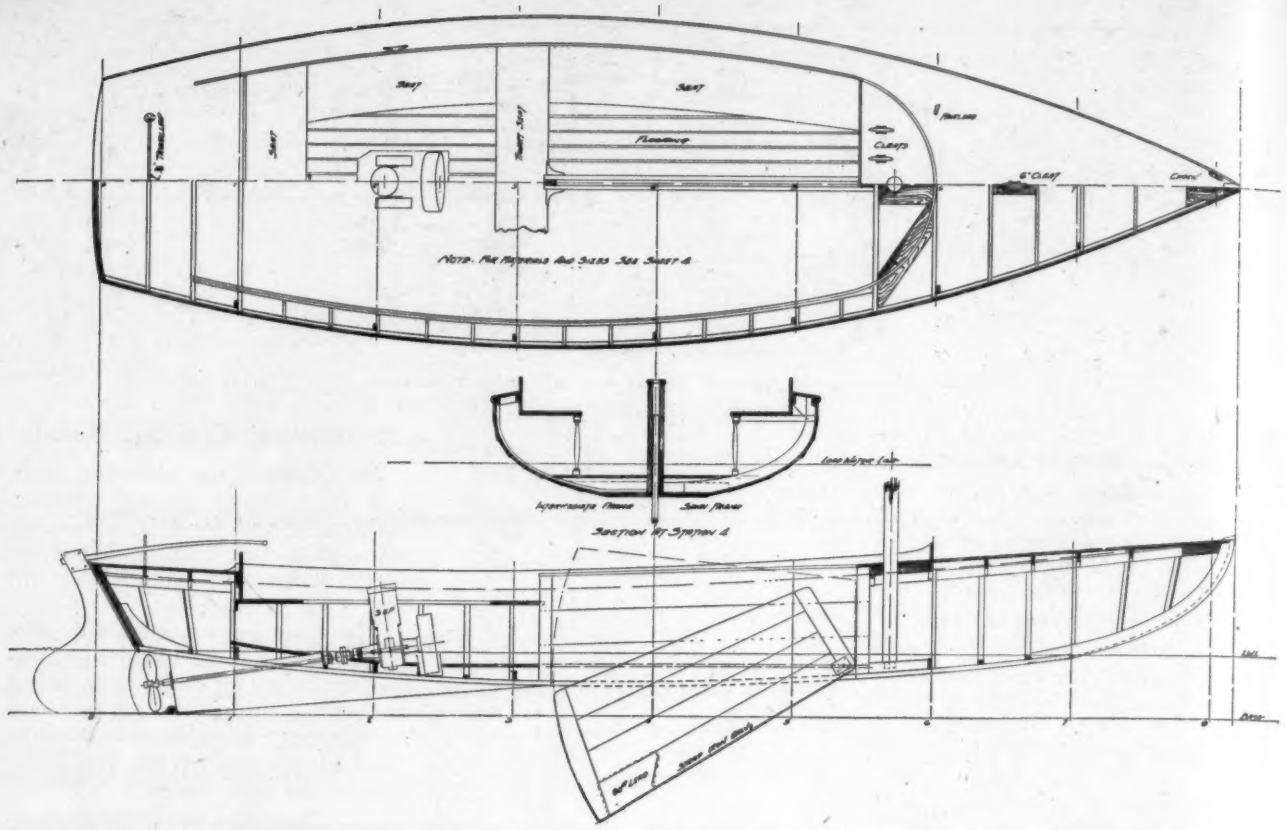
The boat is of the raised deck type, which has its advantages, especially in giving more room below and adding to the strength and ease of construction, although it gives considerably more freeboard in the way of the cabin house.

The length over all is 46½ feet; waterline, 31 feet; beam, 10 feet; and draught, 6 feet. The cabin arrangement is novel and shows the main cabin aft with galley and toilet room amidships, and a stateroom, and a large clothes locker forward.

The rig is well balanced and moderated for a Marconi. We believe that it would



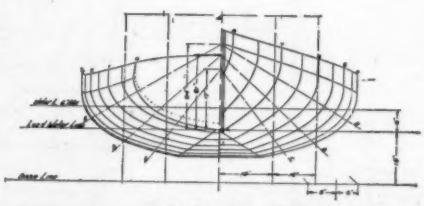
Sail plan, inboard profile and accommodation plan of raised deck cruising ketch, designed by E. I. Schock.



be wise, however, to have a stay from main to mizzen masthead to help tie in the mizzen mast, as the lack of ability to do this is one of the chief faults of the ketch rig with gaff-headed sails.

A 22½ Foot Auxiliary Dory

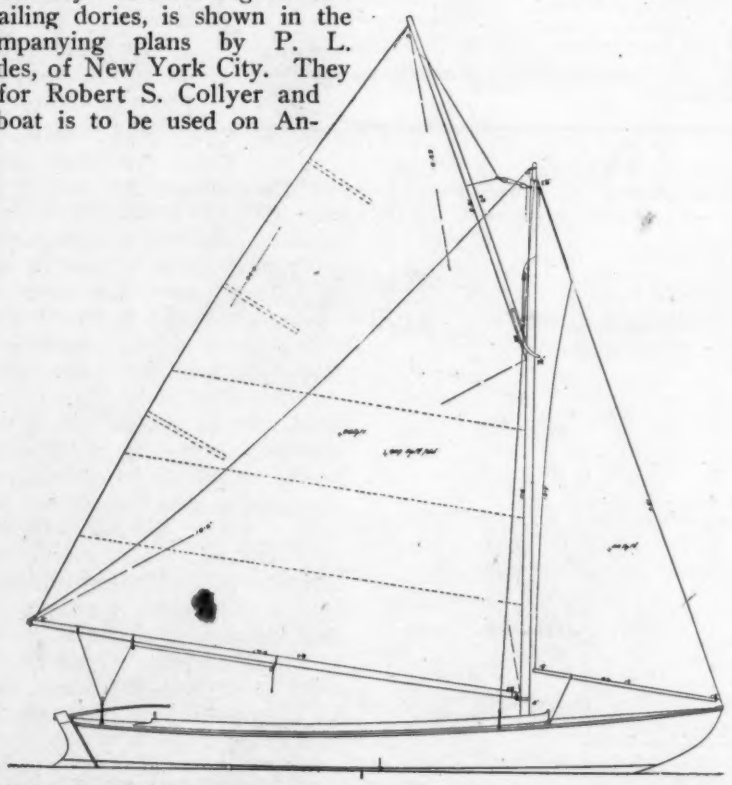
A small auxiliary dory, modified considerably from the regular run of sailing dories, is shown in the accompanying plans by P. L. Rhodes, of New York City. They are for Robert S. Collyer and the boat is to be used on Annapolis Basin, Nova Scotia, where she is now under construction.



Construction and body plan of 22½-foot auxiliary dory.

The body plan shows finely molded sections with an easy sweep from bottom to gunwale, without the sharp, straight deadrise of the ordinary dory, and they ought to produce a boat which will be very fast, as there is nothing to hold her back, and which, at the same time, will carry her sail.

Her over all length is 22½ feet, and water line 18½ feet, while the beam is 6½ feet. The sail area is 259 square feet. For power she has a single cylinder 3 H.P. engine installed, which will give her a fair speed under engine alone.



Sail plan of 22½-foot auxiliary dory, designed by P. L. Rhodes for R. S. Collyer.

A 35-Ft. Raised Deck Motor Boat

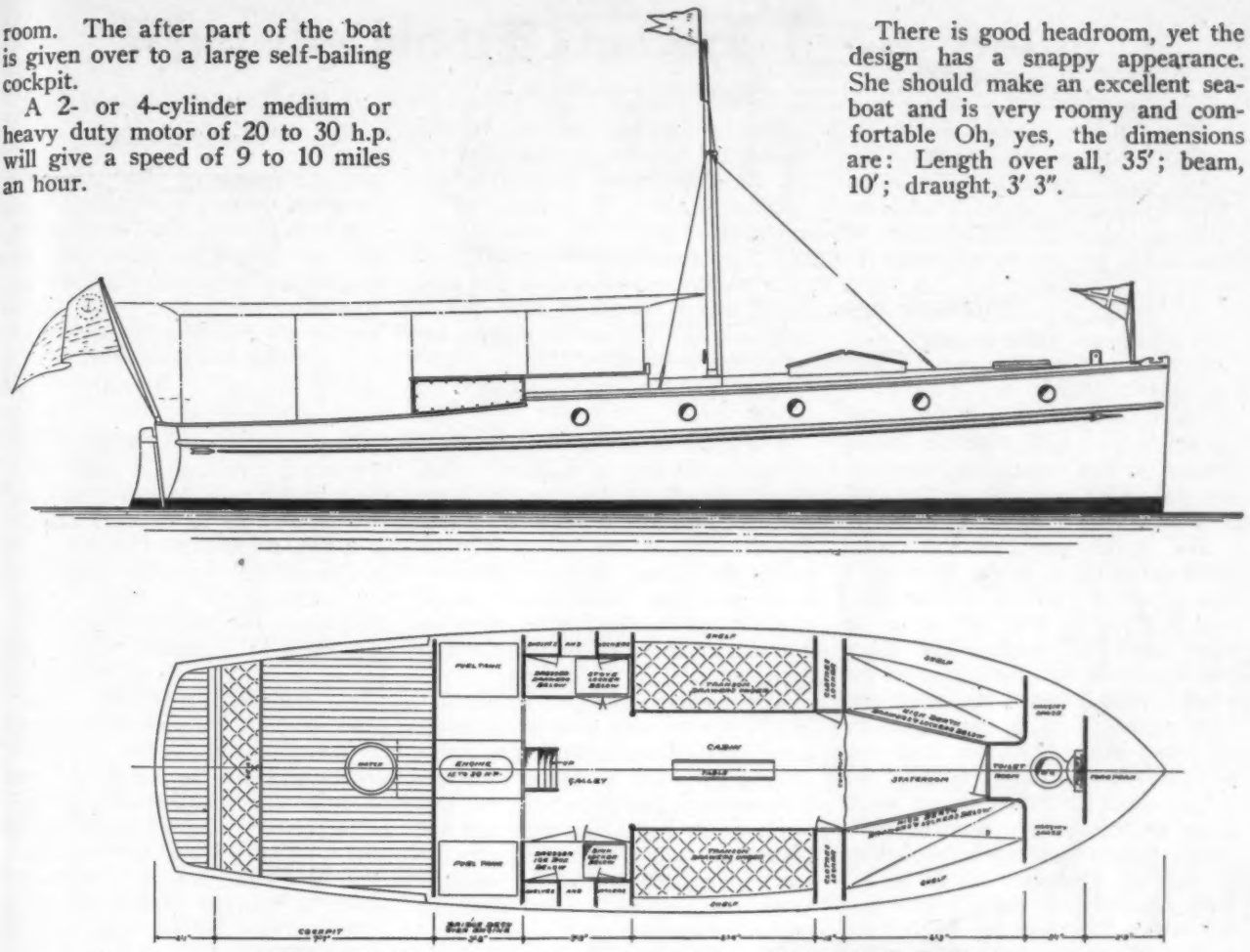
These plans of a raised deck motor boat of a more or less conventional type, designed by Ralph E. Winslow, of Atlantic, Mass., show a boat that is always popular and successful, is inexpensive to build and easy to operate. She is well-proportioned and should be good in all kinds of going to which a boat of this size is subjected.

The cabin is laid out to accommodate six people. Next to the forepeak is a toilet, then a stateroom with two berths, abaft which are two clothes lockers. Then comes the main cabin with two transoms and two Pullman berths, a table, etc., and a carefully designed galley; next is a bridge deck, below which is the engine-

room. The after part of the boat is given over to a large self-bailing cockpit.

A 2- or 4-cylinder medium or heavy duty motor of 20 to 30 h.p. will give a speed of 9 to 10 miles an hour.

There is good headroom, yet the design has a snappy appearance. She should make an excellent seaboat and is very roomy and comfortable Oh, yes, the dimensions are: Length over all, 35′; beam, 10′; draught, 3′ 3″.

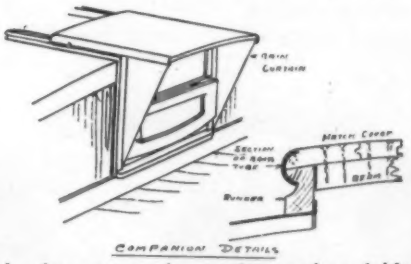


A 35-foot raised deck cruiser with a lot of room in her. Designed by R. E. Winslow.

Sea Chest—And How to Build Her. Part V

By D. S. SIMPSON, M. E.

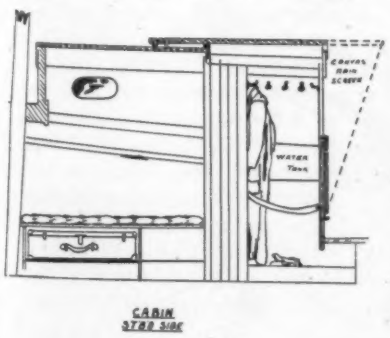
We're getting along, for the cabin house is next. Fit the forward end first. Make a pattern of it and cut the real end from 1¼" stuff, oak or mahogany. This must fit the deck absolutely. When it fits as close as you can see, put a light coat of paint along the deck under it and clamp it down. Then when you take it off you will find places where the paint does not color the edge of the plank. Trim a light shaving off the places where the paint shows and try again. When it is marked by the paint all over it is a good fit. Fasten the end in wet paint. Screw it to the rabbets



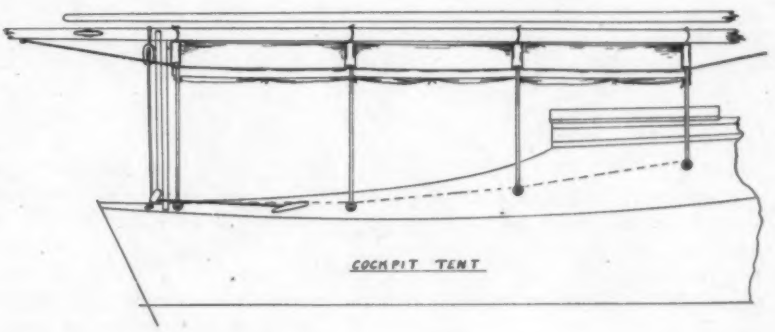
COMPANION DETAILS

in the post and use alternating drift bolts (8") and lag screws from the beam; about three of each.

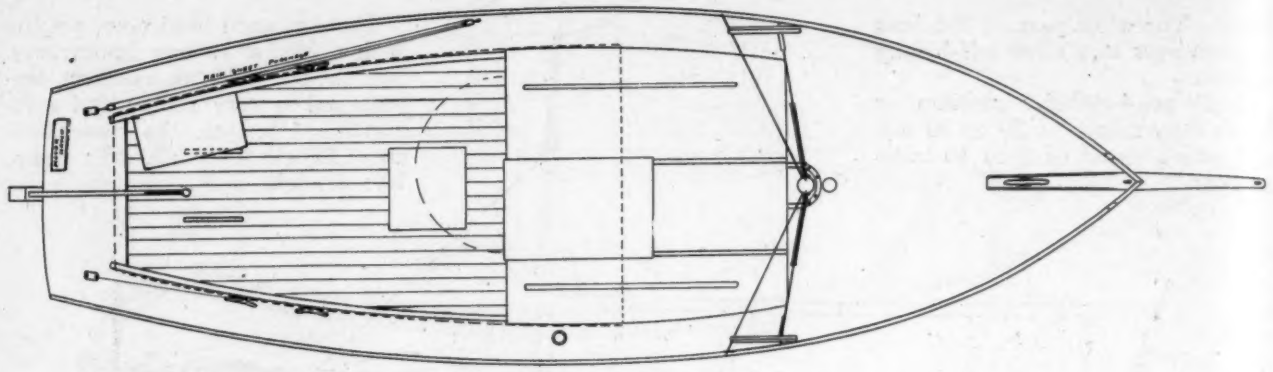
Now cleat together some thin boards to make a pattern wide enough for the house sides. Scribe or spile the bottom edge to the deck and lay out the rest. Cut the plank to the bottom shape (noting that there is a bevel to be allowed for) but leave yourself an inch or so elsewhere. This plank is to be fitted by paint as described above. In clamping down, put the clamps on beams or knees, otherwise you will pull the deck up to the side plank. When the bottoms are fitted clamp the two sides together and shape up the upper edges. Set in wet paint, and screw well to the two posts. Screw through the deck with 4½" No. 14 screws. Use a 1¼" carriage bolt through the after cockpit beam and a drift bolt through the end of each knee. The two-inch canvas flap can be turned



CABIN STBD SIDE



COCKPIT TENT



Deck plan of *Sea Chest* completed.

up inside and tacked to the house planks (in wet paint), and the canvas and joint covered with a ½" by 3" strip.

The upper part of the cabin bulkhead is made in the form of a beam, cut in two ¾" thicknesses, one 3½" wide and the outer or after one 2½" wide. The inner one is notched into the posts and the whole well fastened together and to the posts. (It is not necessary to fasten where the cabin door will be as this is only temporary.)

The door posts can be set next. They are also made in two thicknesses unless you want the bother of cutting rabbets. Each is ¾" thick, the inner one 3½" wide and the outer 2" wide, leaving a ¾" rabbet on each edge. The inner one laps over the inside of the sill but stops at the lower edge of the inner beam. The outer posts laps over the inner beam (cut the outer beam to let the post clear to the top) but stops on top of the sill. In this way the whole bulkhead frame is well fastened together. The rest can be ceiled with V-groove ceiling or with 5/16" water proof veneer.

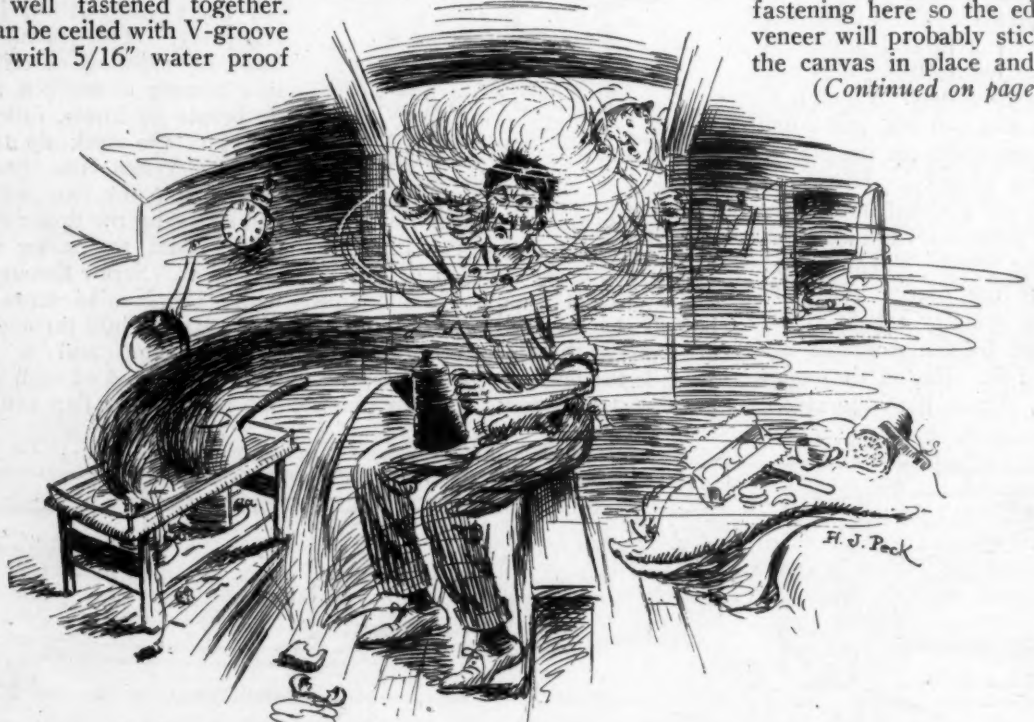
The beam at the forward end of the hatch can now be worked. This should be dovetailed, or at least notched, into the sides and an additional 2" post can be set here to stiffen the house. The partial bulkheads and any other inside work you care to can be finished now as it is easier to work before the top is put on.

The windows or lights can be cut in the house sides now or it could have been done before the sides were finally put in place. If you do not care for expense you can buy regular lights, but they are not necessary and a plain hole can be cut with a half inch rabbet worked from the outside. Then make a paper pattern for each window and get it cut out of ¼" plate glass. It is advisable to put one regular port that opens in the forward end of the house.

The easiest thing of which to make the cabin roof is 5/16" water proof veneer, which can be had large enough to go on in one piece. Failing to get some large enough to make a fore and aft joint where the port hatch slide runs, get some ¼" by 3" pine or cypress and lay it in two thicknesses running at 45 degrees to the center line and crossing each other at right angles. Fasten the two thicknesses well together with clinched tacks and screw or nail them to the house sides, bulkhead and hatch beam. Then smooth the top off well and lay the canvas as for the deck. The veneer will also be canvas covered. In either case you will need a couple of temporary beams to help get the shape. These beams are put on the outside. That is to say, the hatch slides or runners go the full length of the house and the roof is thoroughly screwed to them. In this way there are fewer projections inside to agonize your head, and the roof is just as strong.

If a veneer joint is to be made under the port slide, this must be at least two inches wide. When you lay the canvas there will be no fastening here so the edges of the veneer will probably stick up. Get the canvas in place and stretched,

(*Continued on page* 312)



When the cook needs to be sea-going.

What the Model Yachtsmen Are Doing

The International Model Yacht Race

Mr. Daniels has written the Model Yacht Racing Association of America that, barring the unforeseen, the dates suggested for the great race are agreeable to him, so that the 8th, 9th, and 10th of June are the days on which every model yachting enthusiast and sailor in the country will root on the side of his choice. Little Neck Bay, Long Island, has been chosen as the course for the International Race, and the Bayside Y. C. will be the headquarters of the contestants. The American defender will be chosen after the elimination races, which end May 20th.

We believe that the future of the sport in this country is bound up in this race, not in whether we win or lose, for either of these will be done gracefully, we are sure. But the test will be the personal attendance and enthusiasm of the men interested, no matter what fortune has in store for us.

Our friends the Canadians would have been glad to enter a contender for the YACHTING International Trophy, but the application came too late so that unfortunately arrangements could not be made. Possibly a race with Canada may be just below the horizon for 1923. It is up to you model yachtsmen.

We are happy to be able to state that the very large majority of model yacht clubs are clamoring for final, last-edition news as to just where and when the race is to be held and in every way to recognize the importance of this match. The snappy ones know that the race is on and, that being the best news they have heard for a long, long time, they are going to do their bit to make model yachtsmen, yachtsmen and all good sportsmen say that the sailing of miniature yachts is "there."

Devices for Miniature Yachts

Much of the correspondence we receive contains requests for information on the equipment for miniature yachts. Most often it is regarding devices intended to operate the rudder and the sails so that the yacht will steer a straight course in going before the wind, or for setting sails quickly and trimming them with accuracy at the proper angle to the wind's direction.

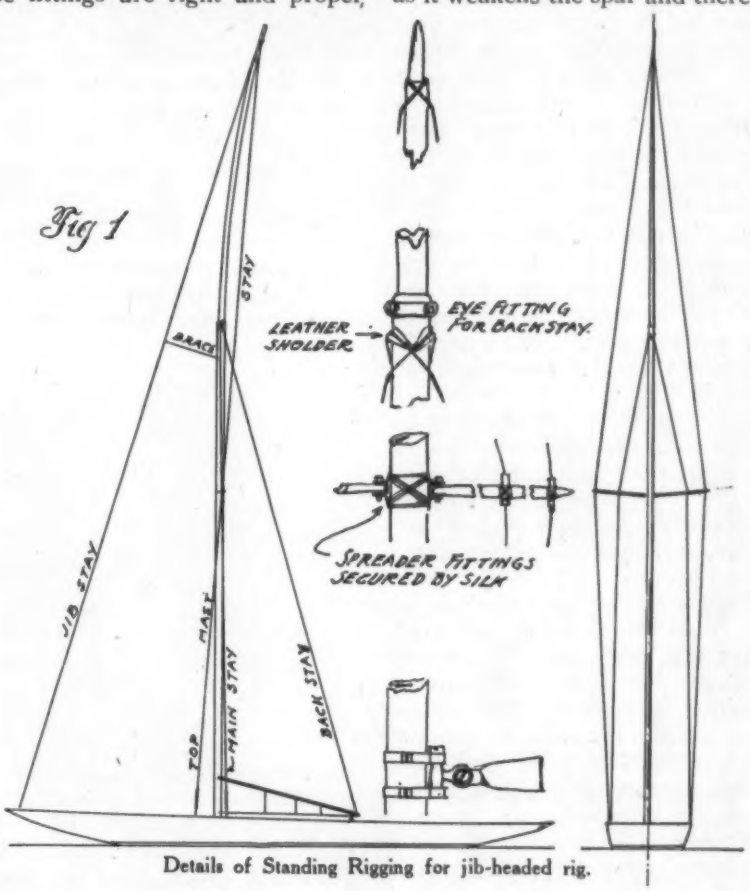
The rigging of a miniature yacht is an interesting study and each vessel has its individual needs. The jib-headed rig (Marconi) now in general use, has created problems in the staying of the high pole mast which requires some ingenuity to solve properly. Where a miniature yacht is used for racing exclusively the rigging follows that of a large yacht only in a general way, so there is little need of blocks, tackle, etc., and by eliminating useless parts the weight of them is eliminated. Where the reproduction of a yacht is desired and where the sailing of a model is a secondary matter, all these fittings are right and proper and should as nearly in scale with the vessel reproduced as is possible.

As the racing season is about to open it may be of interest to model yachtsmen to note some of the methods used in designing and making the systems of stays, sheets, and mechanical devices used on racing miniature yachts.

The rigging of a yacht is divided generally into two functional classes,—the standing and the running rigging. The standing rigging, such as stays, braces, etc., are best made of wire. Their function is to maintain the positions of the light mast and spars. The running rigging, which takes in the sheets and halyards, usually made of linen lines, are designed to handle the sails so that they may be set at various angles relative to the center line of the vessel and thus producing forward motion at different angles off the wind. The main sheet on a model must also tend the helm so that a straight course will be held when sailing before the wind.

The Standing Rigging

On a racing miniature yacht the standing rigging is made as simple as possible, yet amply strong to take the strain. In no case should a spar be penetrated by a wire or eye as it weakens the spar and therefore is not considered a workmanlike job. At the end of spars shoulders should be worked out of the spar and the stays looped over the end as in the detail in Fig. 1, or a band may be made up of a piece of tubing fitted with eyes riveted and soldered to the band, as shown for receiving the backstay hoops.



Details of Standing Rigging for jib-headed rig.

Loops for stay ends may be made in several ways. Where there is action, like the coupling point of a hook or turnbuckle, it is best to reinforce the stay wire with a thimble, made as follows: Take a heavier wire and bend to a heart shape, sawing through at the crossing point, first filed flat, and then grooving the edge all around with a fine rattail file, thus producing a heart shaped thimble. The stay

wire is soldered while being held tight in the groove, and for some distance along the wire.

Where stay wires pass through spreaders it is well to have them pass through a short length of brass tubing made fast in the spreader, particularly if the spreaders are of wood or of the hinged variety.

The turnbuckle is one of the weak points on the average miniature yacht, owing, perhaps, to the difficulty of buying a well-made part of proper size and manufacture. A very good way of making a substantial turnbuckle, which can be made with a minimum of tools, is to use ⅛" 21-gauge seamless brass tubing, tapped No. 3—48 threads R. H. in both ends as deep as the top will allow. Then thread short lengths of No. 10 Phosphor Bronze wire with the same die, being careful to expand the die so that the fit into the threaded tube will be snug. One end of this turnbuckle must be screwed in and soldered fast into the tube, the other left free to screw in or out to bring the stay wire to proper tension. The dimensions of the turnbuckle are given in Fig. 2.

The securing of the stays to the hull at the rails is accomplished by threading eyes and screwing them into the side after a smaller hole has been drilled and flowed with shellac, two eyes forming a device as in Fig. 3.

Right and left turnbuckles require tools and have no advantage except that one need not uncouple the stay to pull it taut, and the range of action is greater. The connection of the turnbuckle to the stay should always be loose, preferably with a heart-shaped thimble made as before described.

If the proper size wire is used it will be found large enough, upon annealing the eye end and flattening it slightly, to leave sufficient metal after a hole has been drilled through, as shown. For the builder having access to a lathe the making of the turnbuckle is an easy matter, a hollow mill being used to reduce a larger sized rod to the proper thread diameter and a clevis filed out at the large end. The body may be made of a flat bar, 3/16" x ¼", and the center opened to reduce weight. Still lighter fittings may be made with right and left thread having clevises at each end only, as shown in Fig. 2.

The reason for the strut in the forestay is to minimize the sag of that stay when sailing before the wind. In a model not using backstays it is difficult to avoid the bending forward of the mast when under strong pressure because the side stays cannot be brought aft far enough to operate against pressure in a forward direction. The after position of the stay at the deck is determined by the main boom, which must swing no less than 80° each side of the center line. The strut above mentioned will minimize somewhat the sag created by the springing of the mast. The stays may be rigged further aft if the pivot point of the boom is brought aft of the mast in the manner shown in Fig. 3. This, however, tends to deform the sail somewhat when going before the wind. The automatic back stay devised by the writer gives the best possible condition without changing the form of the sail.

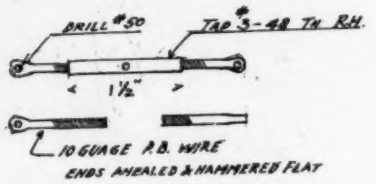


Fig. 2.

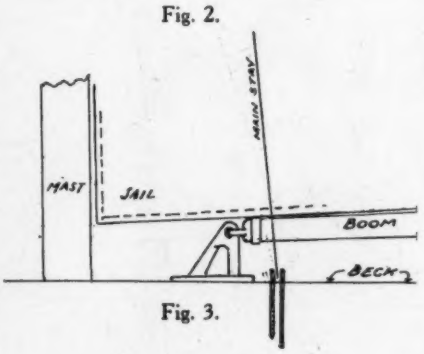


Fig. 3.

If the yacht is to be used for outside sailing from a skiff it is necessary to consider that the stays will often rub on the sides of the skiff and receive rough treatment generally, much more so than in sailing on run-around ponds. Therefore heavier wire is in order.

In Fig. 1 we have a layout of the standing rigging for the jib-headed rig. The head stay is of No. 24 wire, mast head stay of No. 20 wire, topmast stay of No. 22 wire, bobstay, if any, of No. 16 wire, the head stay brace of No. 19 wire, all of phosphor bronze.

Phosphor bronze or nickel silver wire may be purchased in coils or on spools, both are quite hard and are apt to break if "kinked." The thinner the wire the more brittle. It is, therefore, best to anneal the wire to straighten it and to soften it somewhat before use. If a gasoline torch is not to be had this may be done by placing a coal shovel of the kitchen variety inverted over the flame of a gas stove. By drawing the wire over the heated shovel slowly as it is uncoiled from the spool, it will be straightened out perfectly and remove the "spring" due to the hardness and the winding on the spool. In the event that a torch is used the wire may be run over a sheet of metal fitted to it so that the flame will heat the metal evenly to not quite a red heat. Hooks should be made of somewhat heavier wire not annealed and the eyes of them should always be soldered closed. The better grade of brass nickel plated safety pin may be utilized to good advantage for making hooks.

Central Park M. Y. Club Holds Elimination Races

The Central Park Model Yacht Club is running off elimination races to pick the club representatives for the international race, at the summer station of the club, foot of 55th Street, Corona, L. I., in Flushing Bay. The trials have been interesting up to the present writing in so far as the races have been sailed in light and heavy weather and the casualties have been running high, as might be expected with so many new boats racing so early in the season. There are several yet unfinished which have still to appear at the starting line, making twelve new boats out of fifteen promised at the beginning of the season.

The sailing time shows the Class B boats to have a fine turn of speed, three miles being covered in less than one hour, in average winds. This is not so bad and keeps the oarsmen on the go.

HARD A. LEE

Montreal Model Yacht Club

A meeting was held in Montreal on Wednesday evening, April 5th, at which it was decided to form a Model Yacht Club to be called "The Montreal Model Yacht Club" with a membership of sixteen to start with.

The following gentlemen were elected to office: Hon. Commodore, His Worship, Mayor Martin; Commodore, A. S. Collins; Vice-Commodore, C. H. Croucher; Rear Commodore, M. Taylor; Secretary-Treasurer, L. Serre.

It was decided to start with both Senior and Junior sections—the first for members of twenty-one years of age, or over, the latter for youths from fifteen to twenty-one years of age. The object of the club is to encourage the sport of model yachting, both sail and power.

A Trip on Mayflower

(*Continued from page 275*)

came smoother and we drifted along. Wednesday morning the glass read 30.9, the wind had hauled to east-northeast and we knew by the glass that we were going to have a breeze of wind. Our course was west-northwest so we were running dead before it.

At 9 A. M. the wind commenced to blow and our speed increased perceptibly. At noon, with a heavy breeze and a long, following sea the foreboom slatted back and forth across the deck, the wind being so far aft that it was impossible to keep the foresail full and the boom tackle was put on to quiet it down.

At 2 P. M. we sighted the smoke of a steamer, one mile ahead, heading, we judged, for Boston. The wind increased in strength, scud began to fly low and it got very black. At 4 P. M. we were abreast of the steamer, which proved to be a large passenger ship bound for Boston. It must have seemed a little peculiar to her captain to have a sailing vessel come up from behind and pass him, but at 6 P. M. we had run so far ahead of her that we could no longer see her lights.

At 7 P. M. we kept a sharp lookout for lights as the log showed we were nearing our destination, and soon we made out dimly two lights which we took to be Thatcher's.

Twice we were obliged to jibe our mainsail in laying our course up the channel, which is something of a job in a northeast gale. At 9:30 we dropped anchor off East Boston flats, 18 days from the time we left home, after one of the meanest, stormiest trips ever experienced. The Nova Scotia papers were full of marine disasters to the fishing fleet, two lives being lost from one schooner while others were swept clear above decks and some were dismasted. The *Mayflower* arrived home, the only damage being a torn riding sail.

Seawanhaka Cup for 6-Meter Class

(*Continued from page 270*)

in 1895, and re-deeded in 1922, by the donors of the cup, permitting the cup to be challenged for by yacht clubs, whether of the United States or of foreign countries, including the colonies and dependencies of the United States and of such countries.

The Manchester Yacht Club now specifies the type of yacht with which it is prepared to defend the cup as the Six Meter Rating Class, as defined by the English Universal Rule.

No. 2
Evinrude Outings
Distant fishing grounds are easily reached when your rowboat or canoe is Evinrude-powered.

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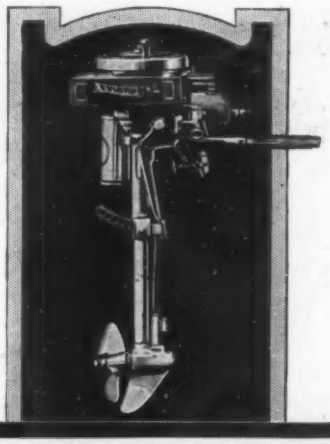
There's a new joy to fishing—a new "e-fish-ency"—when *your* boat is Evinrude-powered. No long, tiresome row to take the edge off the day's sport. You reach the best fishing grounds *early*, and you're fresh and fit when you get there. You've set up your tackle on the way.

Yachtsmen find an Evinrude the ideal power-plant for dinghy or tender. Regardless of wind or weather this husky little "stern-kicker" will get you there and back.



The Evinrude is now made in two models, Standard and Lightweight. Both motors are the same in design, power and speed. The Lightweight is more portable—due to judicious use of aluminum, it weighs just 50 pounds complete!

See these Evinrude motors at your sporting goods or hardware dealer's. Ask him about the Built-in-flywheel Magneto, Tilt-up Attachment and other Evinrude features. Or write for catalog and new prices (recently cut to pre-war level).

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A New Power Dinghy with Row Boat Advantages

The ever increasing demand for a power tender that has all the advantages of a motor craft combined with the utility and ease in handling of a row boat, has been met by the Disappearing Propeller Jolly Boat.

This compact, easily handled dinghy embodies the exclusive feature of the disappearing propeller that has made the other boats of this company so popular. The propeller is located amidships and automatically rises into the housing the moment its protecting skeg strikes any obstacle, such as a sandbar, floating snag, or submerged rock. In uncharted waters it can be navigated in absolute safety without injury to the boat. Because of this device the Disappearing Propeller Jolly Boat can be driven in shallow water or a landing made on rocky or sandy shores.

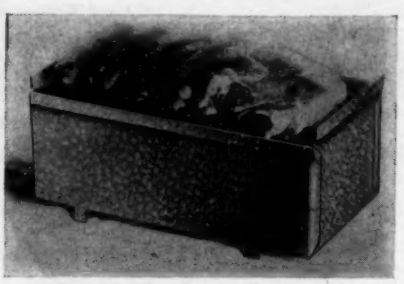
This boat is made in the popular 12′ length with a beam of 5′ and a depth of 1′ 8″ and weighs but 350 lbs. The motor is placed well forward and the rear seating arrangement allows plenty of room for all purposes. The Disappearing Propeller Jolly Boat is powered with a 3 H.P. silent Dis-Pro motor.

Demonstrating the Mexan

The *Mexan* 18-foot racing sloop, designed and built by the Mexan Boat Company, a division of the Mexican Surf Boat Company, Woolworth Building, New York, is about to start on a trip along the Sound as soon as the various clubs open for the season.

Several clubs have already requested her owners to bring this little yacht around for a demonstration and arrangements for visiting other clubs are now being asked for.

The trip as planned will start the latter part of May and calls for the initial stop at the New Haven Yacht Club then to various points on the Long Island and Connecticut shores, ending at New Rochelle.



The Handy Outing Stove used with E-Z Lite fire starters.

A Handy Stove and E-Z Lite Fire Starters

A small stove that will be of especial interest to the owner of small boats and especially of open boats or launches where it is often necessary to cook out of doors, has recently been placed on the market to take the place of the elaborate and expensive camp stoves.

The latest invention in small cooking appliances is the Handy Outing Stove which uses as fuel E-Z Lite fire starters consisting of clean packages containing selected pit-burned charcoal which provides a fine live coal fire lasting an hour. Each starter is equipped with a wick for lighting.

The Handy Outing Stove is a small galvanized iron container just large enough to hold one of the fire starters. A mesh grill goes across the top on which can be placed the things to be cooked. The stove is held off of the ground so that a good draught is insured. When not in use the stove is packed in a box 9½″ x 5½″ x 1″ deep which will fit easily in the locker of almost any small boat. The stove is rust proof and very strongly constructed. It costs, with 3 starters, the small sum of $2.00.

Three views of the *Mexan*, a new 18-footer for racing and day sailing, made by the Mexan Boat Company

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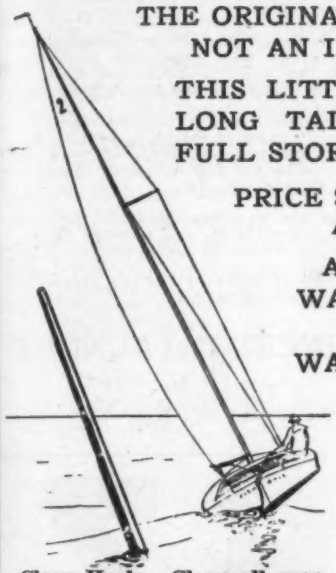

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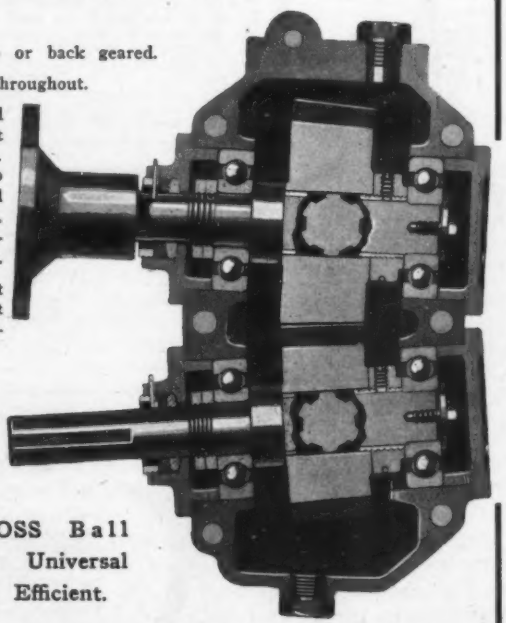

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Send $2.00 for one Handy Outing Stove and three E Z Lite Fire Starters. Additional Starters—6 for $1.00.

Size of stove folded 9½ x 5½ x 1".
" " " assembled 9½ x 5½ x 4½".
Circular on request.

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TATELEC
TRADE MARK

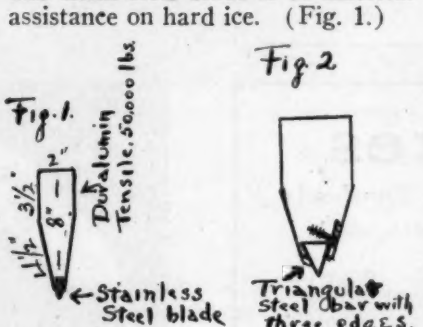
Ice Boat Runners

(*Continued from page 263*)

lack of the water lubricant that causes sleighs to squeak when being drawn over cold hard snow.

My present efforts are in the direction of supplying such water lubricant without friction by heating the runners. We have found that electricity will not work, as it takes considerable energy to create the necessary heat. I made some experiments with Prest-O-Lite gas, boring out the runner and using the flame at a point somewhat in advance of the king-bolt in the runner. I believe that it will materially assist on hard clear ice in very cold weather.

My present runners for the *Debutante III* are of Duralumin, shaped much like the old runners with the exception that a thin blade of stainless steel is inserted in the bottom. This blade is ¼ in. wide and 1 in. deep. It takes a polish even brighter than cast iron, holds its edge perfectly, and in addition, I believe that the heat generated is retained in the thin blade by reason of the air gap between the aluminum and the steel. I believe that the concentration of heat in this small steel blade is of material assistance on hard ice. (Fig. 1.)



There is another advantage of this type of runner. There can be several different sets of blades to meet different conditions; in other words, a set with scarcely any rocker for hard, smooth ice and with more rocker for rougher ice.

We are also working on another type of runner for small boats. We are trying a small triangular bar of steel sharpened on all three edges. The lower edge of the runner proper will have the proper curve and the steel bar will be clamped to the runner proper, much in the same manner that a tire is clamped on the wheel of an automobile. (Fig. 2.) The clamp on one side will be permanent and on the other the clamp may be removed to turn the steel blade so that a fresh edge would come into contact with the ice. This would save the constant sharpening of runners necessary with cast iron.

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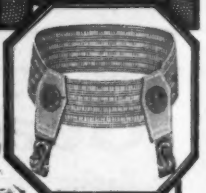

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Sails

(*Continued from page* 280)

tends the sail area aft of the mainsail by several feet, a "water-sail," that is hauled out along the under side of the main boom and hangs down to the water catching all the air that would otherwise escape under the boom, and a "save all" a sail fitted to fill in any opening between two other sails. Old time cutters and sloops used to carry square sails, and the foot of the lower topsail was cut so high to clear the jib stays that they used to hoist another small square sail to fill in this area. This was the "save all."

We could fill a book writing about the history of sails, but as we are more concerned with modern canvas let's consider (in the next issue) the abuses light sails are subjected to.

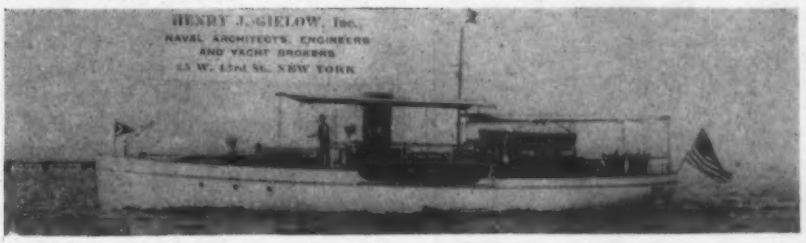
Rounding Cape Horn

(*Continued from page* 268)

both before and after; since by this means they were enabled to receive the assistance which seemed essential to their preservation.

The next day, that is, on the 1st of April, the weather returned again to its customary bias, the sky looked dark and gloomy, and the wind began to freshen and to blow in squalls. However, it was not yet so boisterous as to prevent our carrying our topsails close reefed; but its appearance was such as plainly prognosticated that a still severer tempest was at hand. And accordingly, on the 3d of April, there came on a storm, which both in its violence and continuation (for it lasted three days) exceeded all that we had hitherto encountered. In its first onset we received a furious shock from a sea which broke upon our larboard quarter, where it stove in the quarter gallery and rushed into the ship like a deluge; our rigging, too, suffered extremely from the blow. Amongst the rest one of the straps of the main deadeyes was broke, as was also a main shroud and futtock shroud, so that to ease the stress upon the masts and shrouds we lowered both our main and foreyards, and furled all our sails, and in this posture we lay to for three days.

(*To be continued*)



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State of New York, } ss.
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared W. A. Miles, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the YACHTING and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, YACHTING INCORPORATED, 47 West 47th Street, New York City.

Editor, H. L. Stone, 47 West 47th Street, New York City.

Managing Editor, H. L. Stone, 47 West 47th Street, New York City.

Business Managers, W. A. Miles, 47 West 47th Street, New York City.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) W. A. MILES, Mgr.

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(Signed) James Sarett,

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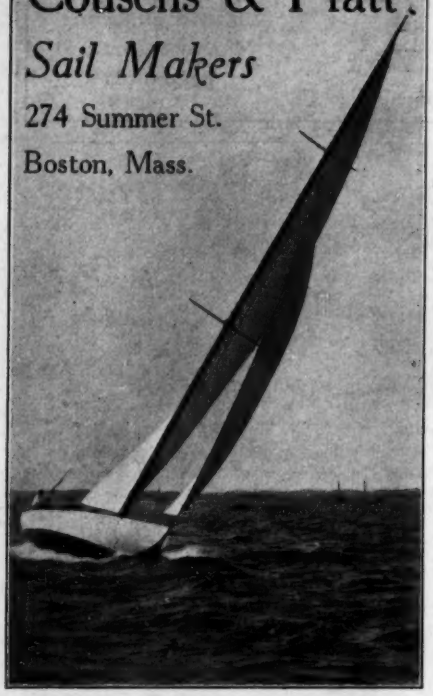

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Sea Chest

(*Continued from page* 288)

then put the slide on and screw up through the roof. After this tack down the canvas. The edge of the canvas will be hidden by a one inch wide half oval moulding.

The hatch shown is a bit tedious to construct. It has, however, the advantage of being weathertight and is undoubtedly worth while. This particular hatch is shown about a foot longer than the opening. This is to allow it to be drawn way aft, forming a sort of awning, so that the door can be left open in rainy weather without flooding the cabin.

The framing of the door is probably clear enough from the drawings. It is made in two halves, the upper swinging down on the lower by simple butt hinges. This again for ventilation.

To return to the outside, we still have the raw edge of canvas around the sheer to cover with a 1½" moulding and the rail to fit. The rail is, of course, unnecessary, but it is fine to brace your foot against when getting an obstinate anchor and is convenient when you drop your knife on deck as it prevents its going overboard. It is 1⅛" thick on deck, and ¾" on top, tapers from three inches at the bow to 1¼" at the stern, and is fastened by nails into the sheer-strake, or it may be set in a half inch from the edge and can then be fastened to clamp and deck beams. After the bowsprit has been fitted the rail is completed with a little breasthook forward. Before fastening about four scuppers must be cut in each rail, from 'midships aft. These will be about three inches long, and three-eighths of an inch wide.

The raw edge of the canvas across the transom will be covered by a flat moulding about three-eighths by one inch and a similar piece put across the cockpit deck beam.

When it comes to painting your personal idiosyncrasies will rule. Personally, I would have no varnish on the outside, as varnish requires renewing once or twice in a season, and we are trying to make a boat requiring the minimum amount of care. Let me suggest a hull, black above the waterline (red or bronze below), buff deck, cabin roof and cockpit floor, with house sides, cockpit coambing, and bulkhead in gray. Fisherman fashion, she might have a green rail. She will need at least three coats of color all over.

Our hull is now finished except for a few odd fittings and the inside work.

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The mast step must be set and firmly fastened with lag screws to the keel and two floor timbers. This is made of oak about 2½" to 3" thick, long enough to fit snugly between the floors, and about 7" wide. It should have a rectangular hole cut in it 2" x 2¼" wide by 3" long. The center of this hole being directly under the center of the hole in the deck. Put two ¼" bolts through the block, one each end of the hole to keep it from splitting.

The main post of the rudder is 1⅜" thick, the balance of the blade being, and the whole tapering to, ¾" at the after edge. The various boards (two are all that are necessary) are driftbolted together, with 5/16" rod. The flats hook at the top of the blade and the hole in it lower down are put there to make a ladder for boarding after you have been swimming. The slot for the tiller is made by riveting two ¾" pieces to the stock. Leave the slot 3" long and put a 2" filling piece above it. This piece should be tapered so that the slot is about ¼" shorter on the after side of the post.

The rudder can be hung with ordinary braces, but a better plan is to use eyes in both rudder and stern post, and drop in a ½" rod for a hinge pin.

The tiller is cut from a 1⅜" oak plank. It should fit snugly in the rudder head with about 1½" projecting and then taper gracefully to about 1" square. Round off the last foot and work a nice ball on the end to keep the hand from slipping off. Put neither varnish nor paint on the grip, it is much easier on the hand that way.

The chain plates are fastened outside the hull, with bolts clear through the frames. If they do not happen to come on a frame, a short piece should be put inside to take the bolts. The forward chain plate should be about 2" back of the mast and the other from ten inches to a foot abaft the first.

The bobstay should have extra long legs (the store variety are a joke) and should be held by at least two 5/16" rivets right through the stem.

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